

Part 2 of 3

EPA-R6-2013-009521

ADEQ

ARKANSAS
Department of Environmental Quality

February 2, 2000

Britt Scheer
Alcoa Industrial Chemicals
P. O. Box 300
Bauxite, AR 72011-0300

Dear Mr. Scheer:

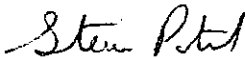
The enclosed Permit No. 1527-AOP-R1 is issued pursuant to the Arkansas Operating Permit Program, Regulation # 26.

After considering the facts and requirements of A.C.A. §8-4-101 et seq., and implementing regulations, I have determined that Permit No. 1527-AOP-R1 for the construction, operation and maintenance of an air pollution control system for Alcoa Industrial Chemicals be issued and effective on the date specified in the permit, unless a Commission review has been properly requested under §2.1.14 of Regulation No. 8, Arkansas Department of Pollution Control & Ecology Commission's Administrative Procedures, within thirty (30) days after service of this decision.

All persons submitting written comments during this thirty (30) day period, and all other persons entitled to do so, may request an adjudicatory hearing and Commission review on whether the decision of the Director should be reversed or modified. Such a request shall be in the form and manner required by §2.1.14 of Regulation No. 8.

This permit is subject to the conditions specified therein and the conditions, if any, which are specified in the enclosed summary report.

Sincerely,



For Keith A. Michaels
Chief, Air Division

Enclosure

RECEIVED
2000 FEB -5 PM 6:48
AIR PERMITS SECTION
6PD-R

RESPONSE TO COMMENTS

**Alcoa Industrial Chemicals
Permit 1527-AOP-R1
CSN: 630010**

On November 7, 1999, the Director of the Arkansas Department of Pollution Control and Ecology gave notice of a draft permitting decision for the above referenced facility. During the comment period the facility submitted written comments, data, views, or arguments on the draft permitting decision. The Department's response to these issues follows.

Comment 1: Item 4 of CAO Lis: 99-119 required Alcoa to perform a 3rd party inventory of sources. This 3rd party inventory identified the Hydrate Chemical Precipitator Tanks in Building 45 as insignificant sources which should be added to the Insignificant Activities list. These are open top precipitation tanks with negligible emissions.

Response: These tanks will be added to the insignificant activities list.

Comment 2: Page 37, Specific Condition 15 states, "Compliance will be demonstrated by Specific Condition 14.". This should read "...demonstrated by Specific condition 16."

Response: This will be corrected.

ADEQ OPERATING AIR PERMIT

Pursuant to the Regulations of the Arkansas Operating Air Permit Program, Regulation #26:

Permit #: 1527-AOP-R1

IS ISSUED TO:

Alcoa Industrial Chemicals

4701 Alcoa Road

Bauxite, AR 72011

Saline County

CSN: 630010

THIS PERMIT AUTHORIZES THE ABOVE REFERENCED PERMITTEE TO INSTALL, OPERATE, AND MAINTAIN THE EQUIPMENT AND EMISSION UNITS DESCRIBED IN THE PERMIT APPLICATION AND ON THE FOLLOWING PAGES. THIS PERMIT IS VALID BETWEEN:

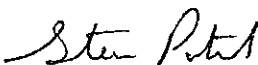
April 21, 1999

and

April 20, 2004

AND IS SUBJECT TO ALL LIMITS AND CONDITIONS CONTAINED HEREIN.

Signed:



for Keith A. Michaels

February 2, 2000
Date Modified

SECTION II: INTRODUCTION

Alcoa Industrial Chemicals (Alcoa) is a manufacturer of various forms of alumina. This permit revision (1527-AOP-R1) addresses three items: 1) modification of baghouse 055BH03 to increase the air flow rate by 200 cfm, and adding a new pick-up point to control an existing source of particulate; 2) the addition of Hydrochloric Acid emissions to sources 405EP0133 and 405EP0233 to account for existing emissions previously not addressed; and 3) the addition of a new product which will result in VOC emissions from a spray dryer controlled by baghouse 451BH011.

This facility is subject to all applicable requirements in Regulation 18, Regulation 19, and Regulation 26. Various operations at the facility are also subject to New Source Performance Standards, Subparts Dc and UUU, which are identified in the appropriate process sections in this permit. These Subparts can be found in Appendices C and D.

Each section in this permit is arranged by process area, then broken down by building for point sources. Each point source at the facility has been given a unique identifier (SN Number) using a consistent format. Each alpha-numeric identifier begins with the building number, followed by a 2 or 4 digit numeric code establishing the identity of each source. The 2-letter codes used to identify each source type may indicate the type of control equipment used to control emissions or a type of combustion source without control equipment. The codes are BH-baghouse, CY-cyclone, EP-electrostatic precipitator, SB-scrubber, AV-activator, TD-tunnel dryer, and BL-boiler. Nomenclature for insignificant sources is consistent with that found in the Insignificant Source list in this permit.

A summary of testing requirements can be found in Appendix A. The opacity survey form can be found in Appendix B.

A summary of all the point sources at the facility is presented in the following table.

Alcoa Industrial Chemicals
1527-AOP-R1
630010

EMISSION SUMMARY					
Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
046BL03	#3 Package Boiler	PM	0.6	2.3	21
		PM ₁₀	0.6	2.3	
		SO ₂	0.1	0.1	
		VOC	0.3	1.0	
		CO	1.4	6.0	
		NO _x	5.5	23.9	
046BL04	#4 Package Boiler	PM	0.6	2.3	21
		PM ₁₀	0.6	2.3	
		SO ₂	0.1	0.1	
		VOC	0.3	1.0	
		CO	1.4	6.0	
		NO _x	5.5	23.9	
046BL05	#5 Package Boiler	PM	0.6	2.3	21
		PM ₁₀	0.6	2.3	
		SO ₂	0.1	0.1	
		VOC	0.3	1.0	
		CO	1.4	6.0	
		NO _x	5.5	23.9	
400BH01	#5 Storage Bin Dust Collector	PM	1.0	4.4	21
		PM ₁₀	1.0	4.4	
400BH02	Bulk Loading Dust Collector	PM	1.3	5.5	21
		PM ₁₀	1.3	5.5	
400BH03	#2 Storage Tank Dust Collector	PM	1.5	6.6	21
		PM ₁₀	1.5	6.6	
400BH04	#1 Storage Tank Dust Collector	PM	0.5	2.2	21
		PM ₁₀	0.5	2.2	
400BH05	#3A Storage Tank Dust Collector	PM	0.5	2.2	21
		PM ₁₀	0.5	2.2	
400BH06	#3B Storage Tank Dust Collector	PM	0.5	2.2	21
		PM ₁₀	0.5	2.2	

Alcoa Industrial Chemicals
1527-AOP-R1
630010

EMISSION SUMMARY					
Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
451BH04	Ground Gel Collector	PM	0.5	2.2	21
		PM ₁₀	0.5	2.2	
451BH05	Spray Dryer Nuisance Dust Collector	PM	0.8	3.3	21
		PM ₁₀	0.8	3.3	
451BH06	Hydral Bulk Loading Nuisance Dust Collector	PM	0.3	1.1	21
		PM ₁₀	0.3	1.1	
451BH07	PD Nuisance Dust Collector	PM	0.5	1.9	21
		PM ₁₀	0.5	1.9	
		SO ₂	1.0	4.4	
		VOC	0.1	0.1	
		CO	0.1	0.4	
		NO _x	0.3	1.1	
451BH08	Spacerite Feed Tank Dust Collector	PM	0.5	2.2	21
		PM ₁₀	0.5	2.2	
451BH09	Spacerite Product Tank Collector	PM	0.3	1.1	21
		PM ₁₀	0.3	1.1	
451BH010	CX200S Nuisance Dust Collector	PM	1.0	4.4	21
		PM ₁₀	1.0	4.4	
451BH011	Auxiliary Spray Dryer D/C	PM	1.3	5.6	21
		PM ₁₀	1.3	5.6	
		SO ₂	1.0	4.4	
		CO	0.1	0.3	
		NO _x	0.3	1.3	
451BH014	H-700 Spray Dryer Dust Collector	PM	5.1	21.9	21
		PM ₁₀	5.1	21.9	
		SO ₂	1.0	4.4	
		CO	0.2	0.8	
		NO _x	0.9	3.9	
451BH011	Auxiliary Spray Dryer D/C	VOC	52.1	40.0	21
451BH014	H-700 Spray Dryer Dust Collector				

Alcoa Industrial Chemicals
1527-AOP-R1
630010

EMISSION SUMMARY					
Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
051BH06	#1 Air Slide Dust Collector	PM	0.8	3.3	31
		PM ₁₀	0.8	3.3	
051BH07	#3 Air Slide Dust Collector	PM	0.8	3.3	31
		PM ₁₀	0.8	3.3	
051BH11	Unloading Hopper Airslide Dust Collector	PM	0.3	1.1	31
		PM ₁₀	0.3	1.1	
055BH01	#1 Blender Dust Collector	PM	1.8	7.7	31
		PM ₁₀	1.8	7.7	
055BH02	#2 Blender Discharge Dust Collector	PM	1.0	4.4	31
		PM ₁₀	1.0	4.4	
055BH03	Nuisance Dust Collector	PM	1.1	4.7	31
		PM ₁₀	1.1	4.7	
405BH03	Building 405B Nuisance Dust Collector	PM	0.3	1.1	31
		PM ₁₀	0.3	1.1	
405BH04	#4 Alumina Transport Dust Collector	PM	1.0	4.4	31
		PM ₁₀	1.0	4.4	
405BH05	#5 Alumina Transport Dust Collector	PM	1.0	4.4	31
		PM ₁₀	1.0	4.4	
405BH06	#6 Alumina Transport Dust Collector	PM	1.0	4.4	31
		PM ₁₀	1.0	4.4	
405BH0308	#1 Blender Collector	PM	0.3	1.1	31
		PM ₁₀	0.3	1.1	
405BH0309	#2 Blender Collector	PM	0.3	1.1	31
		PM ₁₀	0.3	1.1	
405BH0310	#1 High Tank Dust Collector	PM	0.3	1.1	31
		PM ₁₀	0.3	1.1	
405BH0312	#1 Lift System Dust Collector	PM	0.8	3.3	31
		PM ₁₀	0.8	3.3	

Alcoa Industrial Chemicals
1527-AOP-R1
630010

EMISSION SUMMARY					
Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
415BH6204	#2 3W2 Mini Collector	PM PM ₁₀	0.3 0.3	1.1 1.1	31
415BH6225	415-9 Dust Collector	PM PM ₁₀	0.8 0.8	3.3 3.3	31
415BH6227	415-10 Dust Collector	PM PM ₁₀	0.5 0.5	2.2 2.2	31
415BH6401	415-12 Dust Collector	PM PM ₁₀	0.8 0.8	3.3 3.3	31
415BH6451	415-6 Dust Collector	PM PM ₁₀	0.3 0.3	1.1 1.1	31
420BH05	#1 Bagging Dust Collector	PM PM ₁₀	0.5 0.5	2.2 2.2	31
420BH06	#2 Bagging Dust Collector	PM PM ₁₀	0.5 0.5	2.2 2.2	31
420BH6193	#1 Air Slide Vent Dust Collector	PM PM ₁₀	0.3 0.3	1.1 1.1	31
420BH6194	#2 Air Slide Vent Dust Collector	PM PM ₁₀	0.3 0.3	1.1 1.1	31
420BH6260	420-4 Flex Kleen Dust Collector	PM PM ₁₀	2.5 2.5	11.0 11.0	31
420BH7614	420-3 Dust Collector	PM PM ₁₀	0.5 0.5	2.2 2.2	31
420BH7801	420-5 Bulk Loading Dust Collector	PM PM ₁₀	0.8 0.8	3.3 3.3	31
420ABH7714	420A-2 Coarse Dust Collector	PM PM ₁₀	0.5 0.5	2.2 2.2	31
420ABH7716	420A-3 Fines Dust Collector	PM PM ₁₀	0.8 0.8	3.3 3.3	31

Alcoa Industrial Chemicals
1527-AOP-R1
630010

EMISSION SUMMARY					
Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
435BH0754	#4 Blender Dust Collector	PM	1.0	4.4	39
		PM ₁₀	1.0	4.4	
435BH0760	#5 Blender Dust Collector	PM	1.0	4.4	39
		PM ₁₀	1.0	4.4	
435BH0770	Rework System Dust Collector	PM	0.5	2.2	39
		PM ₁₀	0.5	2.2	
425AUC01	Bulk Loading Station (trucks) beneath 425A Dense Phase Pump feed tank	PM	55.0	11.0	38
		PM ₁₀	55.0	11.0	
425BH01	Low Iron Tabular	PM	0.8	3.3	42
		PM ₁₀	0.8	3.3	
425BH02	High Iron Tabular	PM	1.5	6.6	42
		PM ₁₀	1.5	6.6	
425BH03	Ground Ore Collection	PM	1.3	5.5	42
		PM ₁₀	1.3	5.5	
425BH04	Dust Collector 4th Floor	PM	0.8	3.3	42
		PM ₁₀	0.8	3.3	
425BH05	#2 Flex-Kleen Dust Collector	PM	2.5	11.0	42
		PM ₁₀	2.5	11.0	
425BH06	#1 Ceramic Mill Dust Collector	PM	2.5	11.0	42
		PM ₁₀	2.5	11.0	
425BH07	425A DPP Collector	PM	0.5	2.2	42
		PM ₁₀	0.5	2.2	
425BH08	T-1 Mill Dust Collector	PM	0.5	2.2	42
		PM ₁₀	0.5	2.2	
425BH09	#2, 3, 4 Ground Ore Bin Vents Dust Collector	PM	0.4	1.4	42
		PM ₁₀	0.4	1.4	

Alcoa Industrial Chemicals
1527-AOP-R1
630010

EMISSION SUMMARY					
Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
426BH5041	Unground Ore Dust Collector	PM	1.5	6.6	42
		PM ₁₀	1.5	6.6	
426BH5044	12-1 Bin Dust Collector	PM	0.1	0.4	42
		PM ₁₀	0.1	0.4	
426BH5045	Bulk Loading Dust Collector	PM	0.1	0.4	42
		PM ₁₀	0.1	0.4	
426BH7086	Boric Acid Collector	PM	0.3	1.1	42
		PM ₁₀	0.3	1.1	
426EP06	#11 & #12 Converter/Dryer	PM	23.0	100.7	42
		PM ₁₀	23.0	100.7	
		SO ₂	1.0	4.4	
		VOC	0.2	0.6	
		CO	21.9	33.1	
		NO _x	31.1	86.5	
426EP07	#13 & #14 Converter/Dryer	PM	23.0	100.7	42
		PM ₁₀	23.0	100.7	
		SO ₂	1.0	4.4	
		VOC	0.2	0.6	
		CO	21.9	33.1	
		NO _x	31.1	86.5	
141BH01	Milled Product Collector Building 141	PM	0.5	2.2	47
		PM ₁₀	0.5	2.2	
141BH02	Glass Frit/Fines Collectors	PM	1.0	4.4	47
		PM ₁₀	1.0	4.4	
141BH03	Nuisance Collector	PM	1.5	6.6	47
		PM ₁₀	1.5	6.6	
141BH04	Mill Feed Tank Collector	PM	0.3	1.1	47
		PM ₁₀	0.3	1.1	
141BH05	#1 Classifier Collector	PM	0.3	1.1	47
		PM ₁₀	0.3	1.1	

Alcoa Industrial Chemicals
1527-AOP-R1
630010

SECTION III: PERMIT HISTORY

Permit 328-A was issued on 3/24/76 for installation of a 305 MMBtu/hr boiler which could burn either natural gas or fuel oil.

Permit 394-A was issued on 1/28/77 for installation of three dust collectors in new cement production facility.

Permit 417-A was issued on 7/22/77 for installation of a cyclone and a baghouse in building 70 for the F-100 pilot plant.

Permit 583-A was issued on 11/16/79 for installation of a ballformer mill in the tabular process.

Permit 606-A was issued on 4/4/80 for installation of three dust collectors in building 50 for the calcination process, two dust collectors in the cement production process in building 60, and two dust collector in the tabular process, building 426, for control of fugitive emissions.

Permit 621-A was issued on 5/23/80 for installation of three wet scrubbers on the hydrate drying in building 400.

Permit 626-A was issued on 8/21/81 for the installation of a ceramic mill to grind tabular alumina in building 426.

Permit 665-A was issued on 8/21/81 to replace an old dust collector in building 106 with a newer, more efficient dust collector.

Permit 666-A was issued on 8/21/81 for the installation of eight new dust collectors to replace one bigger collector in building 51, and for the installation of a new dust collector in building 60.

Permit 738-A was issued on 5/25/84 for the installation of a new limestone crushing facility controlled with a baghouse. They also replaced scrubber with an electrostatic precipitator on the bauxite calcining process. This process originally calcined lime, but was converted to bauxite.

Permit 861-A was issued on 12/28/87 for the consolidation of 29 air permits which were issued to Alcoa since 1972.

Permit 861-AR-1 was issued on 2/27/90 for producing A4000SG in building 141. This process was never put into operation, however.

Alcoa Industrial Chemicals
1527-AOP-R1
630010

hydral bulk loading belt in Building 451; relocation of a dust collector from a dense phase pump which assisted in the transfer of alumina from the Tabular Plant to the Sinter Plant, to building 425; installation of a dust collector on the hydral bulk loading belt; replacement of baghouses 415BH6191 and 415BH6192 with two more efficient baghouses; and a change in the routing of the baghouse ductwork in building 415. Also, according to a memo from John Rasnic, Director of Manufacturing, Energy and Transportation Division Office of Compliance of the EPA to all EPA Regional Directors, Alcoa is not required to operate continuous opacity monitors at 451BH011 as originally required because the emission rate of particulate matter is less than 25 tons per year. This memo was written to address NSPS Subpart UUU requirements for opacity monitors. Thus, the opacity monitoring requirements at source 451BH011 were deleted from the permit.

All the above mentioned modifications were less than the PSD significant levels, therefore none of the modifications triggered a PSD review.

Hydrate Chemicals

Process Description

The White Hydrate Process begins with preparation of a supersaturated sodium aluminate solution via a pressure digest process. This digest process includes alumina trihydrate (ATH) receipt and preparation, pressure digestion, liquor purification, and recovered liquor processing. Steam is utilized for several of the process steps and is supplied by natural gas fired package boilers located in building 46.

The pressure digest process takes place at Building 45. Regular smelting grade alumina trihydrate wet cake is received by truck and stored in covered tanks to provide about a two week supply. When ready to be used, the wetcake is slurried in large tanks. From there, the material is pumped into a pressure digester vessel. This mixture is heated and then flashed back down to atmospheric temperatures and pressures.

The sodium aluminate is pumped from the digester. After a holding time, solids are removed. The purified liquor is cooled (via heat exchangers). This purified, supersaturated liquor is then surged for feed to the hydrate precipitation process or to the hydral precipitation process. Solids are periodically removed from the filter as a moist cake and are hauled off site.

The final step to the digest process is the processing of the recovered effluent liquors from the hydrate and hydral processes into reusable spent liquor. This recovery process removed carbon dioxide and water, removes trihydrate solids not recovered by the hydrate and hydral processes and adds make up sodium hydroxide to compensate for losses to waste materials.

Water is primarily introduced by the product washing processes but also comes into the process by rain, packing water, hosing up, and other methods. One evaporator (Building 44) removes this water and maintains the concentration of the liquor stream.

The hydrate area precipitates aluminum trihydrate (ATH) into 3 basic products. They are C-31, C-31 Course, and beta alumina trihydrate. C-31 is the primary product, C-31 Coarse has about the same properties as C-31 except the median particle size is larger.

Ground ATH is also produced at the plantsite (Building 410). The material is blown into feed tanks and then fed into ball mills. Particle size is controlled in the ball mills to make various sized products. The feed and product bins all have baghouse collectors to catch ATH fines.

Alcoa Industrial Chemicals
1527-AOP-R1
630010

In the tunnel dried product stream the hydral is screened, filtered, and discharged onto a moving steel conveyor. The conveyor takes the wet filter cake through two drying chambers called a pre-dryer and a final dryer. Both chambers are heated by burning natural gas. The hot gasses are first circulated inside the dryer chambers and then to the atmosphere via exhaust fans and stacks located on the roof. There is one stack for each tunnel dryer unit. The dryer exhaust consists of the pre-dryer and final dryer combustion gasses. The dried product is discharged from the dryer into screw conveyers and an elevator which takes the material to the top of the building.

At the top of the building, the tunnel dried material is discharged through a pulverizer, across a permanent magnet and into storage bins. The material is loaded for shipment to customers. All of the above mentioned equipment and conveying systems, including the product bins, are vented to a common nuisance dust collector which is exhausted to the atmosphere via a blower. The blower stack is located on the roof near the tunnel dryer combustion exhaust stacks.

The spray dried product stream begins where the slurry is dewatered. The filter discharge cake is reslurried by remixing in the presence of a dispersant. The reslurried hydral is pumped to the spray dryer surge tank for storage. From the spray dryer surge tank the slurry is pumped to the spray dryer feed tank. Once in the feed tank, the slurry is fed into the spray dryer chamber. The dried PGA exits the spray dryer in two ways:

- From the coned bottom of the dryer chamber, and
- With the hot combustion gasses.

The hot gasses exit the spray dryer through a duct to the product dust collector where the product solids are removed from the gas stream. The gas stream is exhausted from the collector to the atmosphere via an ID fan located on the top floor of the spray dryer tower.

The solids which were removed by the product collector are combined with the solids from the dryer cone in the product elevator and discharged to an air slide conveying system and into one of three product tanks. The PGA is bagged or bulk loaded for distribution to customers. The product elevator, air slides, bins, etc. are vented to a nuisance dust collector which exhausts to the atmosphere inside the building on the top floor of the spray dryer tower.

Pursuant to a memo from John Rasnic, Director of Manufacturing, Energy and Transportation Division Office of Compliance of the EPA to all EPA Regional Directors, and in the preamble to Subpart UUU, Alcoa is not required to operate continuous opacity monitors at 451BH011 because the emission rate of particulate matter is less than 25 tons per year. This memo was written to address NSPS Subpart UUU requirements for opacity monitors.

Alcoa Industrial Chemicals
1527-AOP-R1
630010

Source	Pollutant	lb/hr	tpy
046BL05	PM ₁₀	0.6	2.3
	SO ₂	0.1	0.1
	VOC	0.3	1.0
	CO	1.4	6.0
	NO _x	5.5	23.9
400BH01	PM ₁₀	1.0	4.4
400BH02	PM ₁₀	1.3	5.5
400BH03	PM ₁₀	1.5	6.6
400BH04	PM ₁₀	0.5	2.2
400BH05	PM ₁₀	0.5	2.2
400BH06	PM ₁₀	0.5	2.2
400BH07	PM ₁₀	0.5	2.2
400BH08	PM ₁₀	0.3	1.1
400SB01	PM ₁₀	1.0	4.4
400SB02	PM ₁₀	1.0	4.4
400SB03	PM ₁₀	1.0	4.4
410BH01	PM ₁₀	0.8	3.3
410BH02	PM ₁₀	0.8	3.3
410BH03	PM ₁₀	0.5	2.2
410BH04	PM ₁₀	0.1	0.4
410BH05	PM ₁₀	0.1	0.4
410BH06	PM ₁₀	0.5	2.2
451BH01	PM ₁₀	0.3	1.1
451BH02	PM ₁₀	1.5	6.6

Alcoa Industrial Chemicals
1527-AOP-R1
630010

Source	Pollutant	lb/hr	tpy
451TD01	PM ₁₀	0.3	1.2
	SO ₂	1.0	4.4
	VOC	0.2	0.5
	CO	0.7	3.1
	NO _x	2.8	12.3
451TD02	PM ₁₀	0.3	1.2
	SO ₂	1.0	4.4
	VOC	0.2	0.5
	CO	0.7	3.1
	NO _x	2.8	12.3
451TD03	PM ₁₀	0.2	0.7
	SO ₂	1.0	4.4
	VOC	0.1	0.3
	CO	0.5	1.8
	NO _x	1.7	7.4
451TD04	PM ₁₀	0.1	0.1
	SO ₂	1.0	4.4
	VOC	0.1	0.2
	CO	0.2	0.6
	NO _x	0.6	2.6

2. Pursuant to §18.801 of the Arkansas Air Pollution Control Code (Regulation 18) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not exceed the emission rates set forth in the following table. These emission rates are based on maximum physical capacity of the equipment.

Source	Pollutant	lb/hr	tpy
045BH69	PM	0.1	0.4
045BH70	PM	0.1	0.4
045BH87	PM	0.3	1.1
045BH88	PM	0.3	1.1

Alcoa Industrial Chemicals
1527-AOP-R1
630010

Source	Pollutant	lb/hr	tpy
451BH02	PM	1.5	6.6
451BH03	PM	0.5	2.2
451BH04	PM	0.5	2.2
451BH05	PM	0.8	3.3
451BH06	PM	0.3	1.1
451BH07	PM	0.5	1.9
451BH08	PM	0.5	2.2
451BH09	PM	0.3	1.1
451BH010	PM	1.0	4.4
451BH011	PM	1.3	5.6
451BH012	PM	0.8	3.3
451BH013	PM	0.3	1.1
451BH014	PM	5.1	21.9
451TD01	PM	0.3	1.2
451TD02	PM	0.3	1.2
451TD03	PM	0.2	0.7
451TD04	PM	0.1	0.1

3. Pursuant to §19.304 of the Regulation of the Arkansas State Implementation Plan for Air Pollution Control (Regulation 19), and 40 CFR Part 60 Subpart Dc §60.48(c), the permittee shall maintain records of the amount natural gas combusted in each of the package boilers (046BL01 thru 046BL05) during each day. These records shall be kept on site and all records shall be maintained for at least two years.

Calcined Aluminas

Process Description

The Calcined Aluminas Plant consists of 2 separate production areas. The Special Aluminas facility (Building 420) is made up of 2 Rotary kilns, 2 continuous ball mills (Building 420) and 1 batch mill (Building 420). The Calcination facility consists of 1 Flash Calciner (Building 50), 1 railcar unloading station (Building 51) and 1 batch ball mill (Building 55).

The Calcined Aluminas Plant at Arkansas Operations receives various calcined aluminas as its process feed stocks. All feedstocks are received via bulk rail cars. The calcined alumina rail cars are unloaded via a pneumatic lift system to dry blender/storage bins.

The alumina feed stocks are dry fed or wet fed to the rotary kilns depending on the product being made. Mineralizers are fed concurrently with the alumina feed stock for some products. All rotary kilns are fired with natural gas. Calcined product exits the kilns and enters a rotary cooler where a water jacket is used for heat removal. The cooled alumina exits the rotary cooler is transported to storage bins. The flue gases from the rotary kilns are processed through electrostatic precipitators to remove entrained dust. The captured dust is recycled back into the rotary kiln.

The calcined alumina products are sold in unground, ground, and super ground forms. The unground alumina is packaged directly from storage bins into rail cars, bulk tanker trucks, 50 pound, 25 kilogram, 100 pound paper bags, 300-400 pound fiber drums, and super sacks weighing 2,000 - 3,500 pounds. The unground alumina can be blended in an air merge blender prior to packaging if the customer's applications require this process step. Bulk rail cars and bulk tanker trucks are also shipped directly to customers as a packaging alternative.

Ground aluminas are processed through the two continuous ball mills. Either mill can feed the two rotary blenders. Blending is performed based on customer requirements. Ground aluminas are processed through derrick scalping screens to remove worn out media that exits the ball mills with the product. Ground alumina has the same packaging alternatives as unground alumina.

SG Alumina is produced by grinding unground alumina in a batch ball mill located in Building 55 and 420. The unground alumina charges are batch weighed according to the recipes for each product into a batch charge hopper. The product is ground for a specific time period, screened to remove worn out media, and then packaged. Standard packaging options include 50 pound paper bags and 400 pound fiber drums.

Alcoa Industrial Chemicals
1527-AOP-R1
630010

Source	Pollutant	lb/hr	tpy
055BH03	PM ₁₀	1.0	4.4
405BH03	PM ₁₀	0.3	1.1
405BH04	PM ₁₀	1.0	4.4
405BH05	PM ₁₀	1.0	4.4
405BH06	PM ₁₀	1.0	4.4
405BH0308	PM ₁₀	0.3	1.1
405BH0309	PM ₁₀	0.3	1.1
405BH0310	PM ₁₀	0.3	1.1
405BH0312	PM ₁₀	0.8	3.3
405EP0133	PM ₁₀	25.0	109.5
	SO ₂	1.0	4.4
	VOC	0.2	0.9
	CO	1.6	6.7
	NO _x	19.6	85.8
405EP0233	PM ₁₀	25.0	109.5
	SO ₂	1.0	4.4
	VOC	0.2	0.9
	CO	1.6	6.7
	NO _x	19.6	85.8
415BH0401	PM ₁₀	0.5	2.2
415BH0402	PM ₁₀	0.5	2.2
415BH6191	PM ₁₀	1.3	5.5
415BH6192	PM ₁₀	1.5	6.6
415BH6201	PM ₁₀	0.3	1.1
415BH6202	PM ₁₀	0.3	1.1
415BH6203	PM ₁₀	0.3	1.1

Alcoa Industrial Chemicals
1527-AOP-R1
630010

Source	Pollutant	lb/hr	tpy
051BH04	PM	0.1	0.4
051BH06	PM	0.8	3.3
051BH07	PM	0.8	3.3
051BH11	PM	0.3	1.1
055BH01	PM	1.8	7.7
055BH02	PM	1.0	4.4
055BH03	PM	1.1	4.7
405BH03	PM	0.3	1.1
405BH04	PM	1.0	4.4
405BH05	PM	1.0	4.4
405BH06	PM	1.0	4.4
405BH0308	PM	0.3	1.1
405BH0309	PM	0.3	1.1
405BH0310	PM	0.3	1.1
405BH0312	PM	0.8	3.3
405EP0133	PM	25.0	109.5
405EP0233	PM	25.0	109.5
415BH0401	PM	0.5	2.2
415BH0402	PM	0.5	2.2
415BH6191	PM	1.3	5.5
415BH6192	PM	1.5	6.6
415BH6201	PM	0.3	1.1
415BH6202	PM	0.3	1.1

Alcoa Industrial Chemicals
1527-AOP-R1
630010

Source	Pollutant	lb/hr	tpy
405EP0133	Hydrogen Fluoride	18.0	78.8
	Hydrochloric Acid	79.8	229.8
405EP0233	Hydrogen Fluoride	20.5	89.8
	Hydrochloric Acid	79.8	229.8

13. Pursuant to §19.702 of the Arkansas State Implementation Plan for Air Pollution Control (Regulation 19) and 40 CFR Part 52 Subpart E, the permittee shall test sources 405EP0133 and 405EP0233 for particulate using Method 5, CO using Method 10, and NO_x using Method 7E, on an annual basis. See Plantwide Condition 13 for testing interval relaxation requirement.
14. Pursuant to A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, source 405EP0133 shall not be operated with a stack height less than 121 feet from ground level.
15. Pursuant to §18.801 of the Arkansas Air Pollution Control Code (Regulation 18) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the emission rate of hydrogen fluoride from 405EP0133 and 405EP0233 shall not exceed values which cause the ambient air concentration of hydrogen fluoride to exceed 26 micrograms per cubic meter based on the following equation.

$$C = 1.444 E_1 + 1.268 E_2$$

where: C is the ambient air concentration of hydrogen fluoride (microgram/cubic meter)
E₁ is the measured lb/hr emission rate from 405EP0133
E₂ is the measured lb/hr emission rate from 405EP0233

Compliance with this condition shall be demonstrated by Specific Condition 16.
16. Pursuant to §18.1004 of the Arkansas Air Pollution Control Code (Regulation 18) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not exceed a combined aluminum fluoride (AlF₃) feed rate of 127 lb/hr. The HF feed rate limit is based on a HF emission factor of 283.6 lb HF emitted per ton of fluoride feed rate. This emission factor represents the highest emission factor measured at all product campaigns from 9/97 to 9/98. In the event that the semiannual HF stack testing reveals higher

Calcium Aluminate Cement

Process Description

The Calcium Aluminum Cement Plant receives limestone and alumina as feedstock. The limestone and alumina are co-ground in a continuous ball mill with steel liners and steel balls. The ball mill discharge (called raw mix) is batch blended in a rotary blender for consistency. This raw mix is heat treated in a rotary kiln to produce a calcium aluminate clinker with pre-determined calcium/alumina phase composition. This clinker is ground with additives in a continuous ball mill with steel liners and steel balls. The finished cement is blended in an air merge blender for consistency and packaged in bags for storage and shipment.

The ball mills and rotary kiln are located at building 60 and the air merge blenders and packaging area are located in building 435

There are five different grades of cement campaigned in the calcium aluminate cement plant. The properties of these grades are controlled by various process controls and/or feedstocks. The cement products include a 70% AL_2O_3 cement, CA-14 and 4 different 80% AL_2O_3 cements, CA-25 Regular, CA-25 Long Working, CA-25C Casting, and CA-25GG Gunning Grade.

Specific Conditions

20. Pursuant to §19.501 et seq of the Regulations of the Arkansas State Implementation Plan for Air Pollution Control (Regulation 19) and 40 CFR Part 52, Subpart E, the permittee shall not exceed the emission rates set forth in the following table. These emission rates are based on maximum physical capacity of the equipment.

Source	Pollutant	lb/hr	tpy
060BH0285	PM ₁₀	1.0	4.4
060BH0402	PM ₁₀	1.0	4.4
060BH0406	PM ₁₀	0.5	2.2
060BH0510	PM ₁₀	0.5	2.2
060BH0528	PM ₁₀	0.5	2.2

Alcoa Industrial Chemicals
1527-AOP-R1
630010

Source	Pollutant	lb/hr	tpy
435BH0712	PM	1.5	6.6
435BH0754	PM	1.0	4.4
435BH0760	PM	1.0	4.4
435BH0770	PM	0.5	2.2

22. Pursuant to §19.702 of the Arkansas State Implementation Plan for Air Pollution Control (Regulation 19) and 40 CFR Part 52 Subpart E, the permittee shall measure the exhaust of 060EP0241 for particulate, nitrogen oxides, and carbon monoxide annually using EPA Reference Methods 5, 7E, and 10, respectively. See Plantwide Condition 13 for testing interval relaxation requirement.
23. Pursuant to §19.702 of the Arkansas State Implementation Plan for Air Pollution Control (Regulation 19) and 40 CFR Part 52 Subpart E, the permittee shall measure the exhaust of 060BH0573 for particulate annually using EPA Reference Method 5. See Plantwide Condition 13 for testing interval relaxation requirement.
24. Pursuant to §19.705 of the Arkansas State Implementation Plan for Air Pollution Control (Regulation 19), A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6, the permittee shall combust only pipeline quality natural gas at source 060EP0241.

Alcoa Industrial Chemicals
1527-AOP-R1
630010

Source	Pollutant	lb/hr	tpy
425BH09	PM ₁₀	0.4	1.4
425BH1033	PM ₁₀	0.8	3.3
425BH1037	PM ₁₀	1.0	4.4
425BH3343	PM ₁₀	1.5	6.6
425EP04	PM ₁₀	13.8	60.4
	SO ₂	0.6	2.6
	VOC	0.2	0.4
	CO	0.7	2.9
	NO _x	8.4	36.8
426BH1032	PM ₁₀	1.0	4.4
426BH1035	PM ₁₀	0.3	1.1
426BH1045	PM ₁₀	1.5	6.6
426BH3311	PM ₁₀	1.5	6.6
426BH3314	PM ₁₀	1.5	6.6
426BH3317	PM ₁₀	2.3	9.9
426BH3320	PM ₁₀	2.3	9.9
426BH5015	PM ₁₀	1.5	6.6
426BH5041	PM ₁₀	1.5	6.6
426BH5044	PM ₁₀	0.1	0.4
426BH5045	PM ₁₀	0.1	0.4
426BH7086	PM ₁₀	0.3	1.1
426EP06	PM ₁₀	23.0	100.7
	SO ₂	1.0	4.4
	VOC	0.2	0.6
	CO	21.9	33.1
	NO _x	31.1	86.5

Alcoa Industrial Chemicals
1527-AOP-R1
630010

Source	Pollutant	lb/hr	tpy
426BH1032	PM	1.0	4.4
426BH1035	PM	0.3	1.1
426BH1045	PM	1.5	6.6
426BH3311	PM	1.5	6.6
426BH3314	PM	1.5	6.6
426BH3317	PM	2.3	9.9
426BH3320	PM	2.3	9.9
426BH5015	PM	1.5	6.6
426BH5041	PM	1.5	6.6
426BH5044	PM	0.1	0.4
426BH5045	PM	0.1	0.4
426BH7086	PM	0.3	1.1
426EP06	PM	23.0	100.7
426EP07	PM	23.0	100.7

27. Pursuant to §19.702 of the Arkansas State Implementation Plan for Air Pollution Control (Regulation 19) and 40 CFR Part 52 Subpart E, the exhaust of the three dryer ESPs (425EP04, 426EP06, and 426EP07) shall be measured for particulate, nitrogen oxides, and carbon monoxide, using EPA Reference Methods 5, 7E, and 10, respectively. This testing shall performed annually. See Plantwide Condition 13 for testing interval relaxation requirement.
28. Pursuant to §19.705 of the Arkansas State Implementation Plan for Air Pollution Control (Regulation 19), A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6, the permittee shall not load out more than 20,000 tons of alumina at 425AUC01 (bulk loading station at trucks underneath Dense Phase pump feed tank) during any consecutive 12 month period.

Electronic Packaging

Process Description

Two different powder products are manufactured in this facility using two separate processes. Pneumatic conveyance of both materials through the process necessitates the use of both product and fugitive dust collectors.

The first process is a grinding operation. The unground powder is transported to the facility in a trailer and unloaded pneumatically into the mill feed tank. A bin vent collector atop the feed tank separates transport air from the solids stream. The unground powder exits the feed tank, passes through a gravimetric feeder, and into the mill. The material is ground in the mill to the consistency of flour and transported pneumatically to the product collector where the air and solids streams are separated. The transport air exits the process through the dust collector blower. The ground product is packaged in appropriate containers directly beneath the product collector. A nuisance dust collector catches any fugitive dust that may escape the packaging system or gravimetric feeder.

The second process is a ground powder classification operation. This process is actually two parallel systems that can manufacture two different classified powders without concern for cross contamination, except in the classifier proper which must be cleaned out between products. One of the parallel systems is not used routinely for any product at this time. The second ground powder is transported to the facility in drums or super sacks. These containers are emptied into the feed tank using the pneumatic lift system. A bin vent collector atop the feed tank separates transport air from the solids stream. The ground powder exits the feed tank, passes through a gravimetric feeder, and into the classifier. The ground fraction is pneumatically conveyed to a coarse cyclone system where the air and solids stream are separated. The transport air is recycled into the classifier. The coarse fraction is pneumatically conveyed to a product collector where the air and solids stream are separated. The air exits the process through the main classifier blower. The fine fraction is packaged in appropriate containers directly beneath the product collector. The nuisance dust collector captures any fugitive dust that may escape the packaging systems, gravimetric feeders, or the #1 lift system.

Storage Piles and Haul Roads

Process Description

Fugitive emissions occur from traffic on the paved and unpaved roads at the facility. The emissions from these haul roads were calculated using the equations for paved and unpaved roads found in AP-42, Chapter 13, Section 13.2.1 and 13.2.2. Storage piles at the facility generate fugitive particulate emissions. These emissions were calculated using the AP-42 equations found in Section 13.2.4.

Specific Conditions

33. Pursuant to §19.501 et seq of the Regulations of the Arkansas State Implementation Plan for Air Pollution Control (Regulation 19) and 40 CFR Part 52, Subpart E, the permittee shall not exceed the emission rates set forth in the following table.

Source	Pollutant	lb/hr	tpy
MISC	PM ₁₀	22.3	97.5

34. Pursuant to §18.801 of the Arkansas Air Pollution Control Code (Regulation 18) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not exceed the emission rates set forth in the following table.

Source	Pollutant	lb/hr	tpy
MISC	PM	22.3	97.5

Alcoa Industrial Chemicals
1527-AOP-R1
630010

38. Pursuant to §19.705 of the Regulations of the Arkansas State Implementation Plan for Air Pollution Control, and 40 CFR Part 52, Subpart E, the permittee shall keep records on the amount of lime loaded out during each 12-month consecutive period. Each twelve month consecutive period shall be updated by the last day of the calendar month following the reported 12-month period. These records shall be kept on site and available for inspection by Department personnel upon request.

SECTION VI: PLANTWIDE CONDITIONS

1. Pursuant to §19.704 of Regulation 19, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the Director shall be notified in writing within thirty (30) days after construction has commenced, construction is complete, the equipment and/or facility is first placed in operation, and the equipment and/or facility first reaches the target production rate. The Department recognizes that all existing equipment located at Alcoa, Arkansas Operations, has reached target production rates and that no further notification is required.
2. Pursuant to §19.410(B) of Regulation 19, and 40 CFR Part 52, Subpart E, the Director may cancel all or part of this permit if the construction or modification authorized herein is not begun within 18 months from the date of the permit issuance, or if the work involved in the construction or modification is suspended for a total of 18 months or more.
3. Pursuant to §19.702 of Regulation 19, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, each emission point for which an emission test method is specified in this permit shall be tested in order to determine compliance with the emission limitations contained herein within the specific conditions of this permit within sixty (60) days of achieving the maximum production rate, but in no event later than 180 days after initial start-up of the permitted source. The permittee shall notify the Department of the scheduled date of compliance testing at least fifteen (15) days in advance of such test. Two copies of the compliance test results shall be submitted to the Department within thirty (30) days after the completed testing. The permittee shall provide:
 - (1) Sampling ports adequate for applicable test methods
 - (2) Safe sampling platforms
 - (3) Safe access to sampling platforms
 - (4) Utilities for sampling and testing equipment
4. Pursuant to §19.303 of Regulation 19, and A.C.A. §8-4-203 as referenced by A.C. A. §8-4-304 and §8-4-311, the equipment, control apparatus and emission monitoring equipment shall be operated within their design limitations and maintained in good condition at all times.

Alcoa Industrial Chemicals
1527-AOP-R1
630010

9. Pursuant to §19.503 of the Arkansas Plan of Implementation for Air Pollution Control (Regulation 19), and 40 CFR Part 52, Subpart E, the opacity limit for each emission source listed in the table of allowable emission rates is limited to the value in the opacity survey (Appendix B) as measured by EPA Reference Method 9. All sources are to be visually inspected at least once per week. If any source appears to be out of compliance with the opacity limit while conducting the visual inspection then Alcoa shall perform a Method 9 evaluation on that particular source(s). If any source should exceed its opacity limit, then the cause of the exceedance shall be investigated and corrected as soon as possible. The opacity of each source that appears to be out of compliance with the opacity limit shall be recorded on the opacity survey forms (Appendix B), which shall be kept on site and available for inspection. Also, records shall be kept on site and made available upon request showing that the visual inspections of each source are being performed as required by this condition. This condition pertains to sources with 20% opacity limits.
10. Pursuant to §26.3(d) of Regulation 26, the emission points listed in any of the Tables of Allowable Emission Rates in this permit are the only emission points being permitted at this production facility. However, the permittee has many intermittent sources which do not lend themselves to being permitted. Additionally, it is recognized that certain trace quantities of other, related pollutants may be released from emission points listed in this permit. If the emission of other pollutants is discovered, the permittee shall submit such information to the Department within 30 calendar days of such discovery. The permittee shall, upon notice from the Department, submit an application for permit modification to add to the permit an emission limit for any of these trace pollutants which the Director finds to have the potential to be emitted in relevant quantities.
11. Pursuant to §19.702 of the Arkansas State Implementation Plan for Air Pollution Control (Regulation 19) and 40 CFR Part 52 Subpart E, the Department reserves the right to require testing of any intermittent source that exhibits emissions which the Department determines to be quantifiable and deems necessary to include in a Table of Allowable Emission Rates.
12. Pursuant to §19.501 et seq of the Arkansas State Implementation Plan for Air Pollution Control (Regulation 19) and 40 CFR Part 52 Subpart E, the permittee shall not exceed any limit set forth in any of the Tables of Allowable Emission Rates of this permit. Emissions from any point source, except the insignificant sources listed in Section VI, not specifically listed in the emission summary table of this permit shall be a violation of this condition.

Alcoa Industrial Chemicals
1527-AOP-R1
630010

- c. Persons performing maintenance, service repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.
 - d. Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record keeping requirements pursuant to §82.166. ("MVAC-like appliance" as defined at §82.152.)
 - e. Persons owning commercial or industrial process refrigeration equipment must comply with leak repair requirements pursuant to §82.156.
 - f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.
16. If the permittee manufactures, transforms, destroys, imports, or exports a class I or class II substance, the permittee is subject to all requirements as specified in 40 CFR part 82, Subpart A, Production and Consumption Controls.
17. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.
- The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or the system used on passenger buses using HCFC-22 refrigerant.
18. The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR part 82, Subpart G, Significant New Alternatives Policy Program.
19. Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements, as of the date of permit issuance, included in and specifically identified in item A of this condition:

Alcoa Industrial Chemicals
1527-AOP-R1
630010

Description of Regulation	Regulatory Citation	Affected Source	Basis for Determination
New Source Performance Standards for Fossil Fuel Fired Steam Generators	40CFR60, Subpart D Subpart Da	046BL01 046BL02 046BL03 046BL04 046BL05	Less than 250 million BTU/hr
New Source Performance Standards for Industrial-Commercial-Institutional Steam Generating Units	40CFR60 Subpart Db	046BL01 046BL02 046BL03 046BL04 046BL05	Less than 100 million BTU/hr.
New Source Performance Standards for Metallic Mineral Processing	40CFR60 Subpart LL	Facility	This facility no longer processes ore. According to 40 CFR Part 60 Section 381, a "metallic mineral processing plant" means any combination of equipment that produces metallic mineral concentrates from ore. Previously mined and processed alumina trihydrate is received at this facility from the Alcoa, Point Comfort, Texas facility.
New Source Performance Standards for Non-Metallic Mineral Processing	40 CFR 60 Subpart OOO	Facility	This facility processes alumina, which is not defined as a non-metallic mineral.

Alcoa Industrial Chemicals
1527-AOP-R1
630010

The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; or

The ability of the EPA to obtain information under Section 114 of the Clean Air Act.

Alcoa Industrial Chemicals
1527-AOP-R1
630010

Emission Source Description	Reason Insignificant
Dryer exhaust, building 400 area	particulate during upset conditions only
Bulk loading airslide, building 410 (trucks)	out of service
Pilot dryer blower intake, east end of building 451	no discharge
Control room air intake vent, building 451	no discharge
Axial cooling bin heat exhausters (6 @ 24" dia.), north side of building 425 at 4th/5th floor level	no pollutant discharge
Dryer heat exhaust (8 @ 20" dia., elevation=134'), building 425 roof	no pollutant discharge
Air intakes (5 @ 12" dia.), west side of Building 426 converter wing	No pollutant discharge
Heater vents (6"), south side of Building 426 above dock area	No pollutant discharge
Dryer heat exhausts (4 @ 20" dia., elevation = 130')	No pollutant discharge
Dust collection system, southeast corner of Building 41-exhaust inside	No emissions
Water heater flue, north side of Building 41A bin vent on ground FAH tank	out of service
Perchloric storage area (building 41 area)	no emissions
Fume hood exhausts (7 x 8" dia., elev. = Building +6') building 41 area	Group A, #5
Fume hood exhaust, Building 41 Grinding Room	Group A, #5
Chemical vent (2" dia., 12' elev.), south side of building 152	Group A, #5
Fume hood exhaust, south side of building 152	Group A, #5
Fume hood exhaust (2 @ 6" x 8" dia., 10' elev.), north side of building 152	Group A, #5

Alcoa Industrial Chemicals
1527-AOP-R1
630010

6. Janitorial services and consumer use of janitorial products.
7. Internal combustion engines used for landscaping purposes.
8. Laundry activities, except for dry-cleaning and steam boilers.
9. Bathroom/toilet emissions.
10. Emergency (backup) electrical generators at residential locations.
11. Tobacco smoking rooms and areas.
12. Blacksmith forges.
13. Maintenance of grounds or buildings, including: lawn care, weed control, pest control, and water washing activities.
14. Repair, up-keep, maintenance, or construction activities not related to the sources' primary business activity, and not otherwise triggering a permit modification. This may include, but is not limited to such activities as general repairs, cleaning, painting, welding, woodworking, plumbing, re-tarring roofs, installing insulation, paved/paving parking lots, miscellaneous solvent use, application of refractory, or insulation, brazing, soldering, the use of adhesives, grinding, and cutting.¹
15. Surface-coating equipment during miscellaneous maintenance and construction activities. This activity specifically does not include any facility whose primary business activity is surface-coating or includes surface-coating or products.
16. Portable electrical generators that can be "moved by hand" from one location to another.²

¹ Cleaning and painting activities qualify if they are not subject to VOC or HAP control requirements. Asphalt batch plant owners/operators must get a permit.

² "Moved by hand" means that it can be moved by one person without assistance of any motorized or non-motorized vehicle, conveyance, or device.

Alcoa Industrial Chemicals
1527-AOP-R1
630010

27. Natural gas pressure regulator vents, excluding venting at oil and gas production facilities.
28. Hand-held applicator equipment for hot melt adhesives with no VOCs in the adhesive.
29. Lasers used only on metals and other materials which do not emit HAPs in the process.
30. Consumer use of paper trimmers/binders.
31. Electric or steam-heated drying ovens and autoclaves, but not the emissions from the articles or substances being processed in the ovens or autoclaves or the boilers delivering the steam.
32. Salt baths using non-volatile salts that do not result in emissions of any air pollutant covered by this regulation.
33. Laser trimmers using dust collection to prevent fugitive emissions.
34. Bench-scale laboratory equipment used for physical or chemical analysis not including lab fume hoods or vents.
35. Routine calibration and maintenance of laboratory equipment or other analytical instruments.
36. Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw materials for analysis.
37. Hydraulic and hydrostatic testing equipment.
38. Environmental chambers not using hazardous air pollutant gases.
39. Shock chambers, humidity chambers, and solar simulators.
40. Fugitive emissions related to movement of passenger vehicles, provided the emissions are not counted for applicability purposes and any required fugitive dust control plan or its equivalent is submitted.
41. Process water filtration systems and demineralizers.
42. Demineralized water tanks and demineralizer vents.

Alcoa Industrial Chemicals
1527-AOP-R1
630010

60. Barbecue equipment or outdoor fireplaces used in connection with any residence or recreation.
61. Log wetting areas and log flumes.
62. Periodic use of pressurized air for cleanup.
63. Solid waste dumpsters.
64. Emissions of wet lime from lime mud tanks, lime mud washers, lime mud piles, lime mud filter and filtrate tanks, and lime mud slurry tanks.
65. Natural gas odoring activities unless the Department determines that emissions constitute air pollution.
66. Emissions from engine crankcase vents.
67. Storage tanks used for the temporary containment of materials resulting from an emergency reporting to an unanticipated release.
68. Equipment used exclusively to mill or grind coatings in roll grinding rebuilding, and molding compounds where all materials charged are in paste form.
69. Mixers, blenders, roll mills, or calendars for rubber or plastic for which no materials in powder form are added and in which no organic solvents, diluents, or thinners are used.
70. The storage, handling, and handling equipment for bark and wood residues not subject to fugitive dispersion offsite (this applies to the equipment only).
71. Maintenance dredging of pulp and paper mill surface impoundments and ditches containing cellulosic and cellulosic derived biosolids and inorganic materials such as lime, ash, or sand.
72. Tall oil soap storage, skimming, and loading.
73. Water heaters used strictly for domestic (non-process) purposes.
74. Facility roads and parking areas, unless necessary to control offsite fugitive emissions.

SECTION VIII: GENERAL PROVISIONS

1. Pursuant to 40 C.F.R. 70.6(b)(2), any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 *et seq.*) as the sole origin of and authority for the terms or conditions are not required under the Clean Air Act or any of its applicable requirements, and are not federally enforceable under the Clean Air Act. Arkansas Pollution Control & Ecology Commission Regulation 18 was adopted pursuant to the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 *et seq.*). Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 *et seq.*) as the origin of and authority for the terms or conditions are enforceable under this Arkansas statute.
2. Pursuant to 40 C.F.R. 70.6(a)(2) and §26.7 of the Regulations of the Arkansas Operating Air Permit Program (Regulation 26), this permit shall be valid for a period of five (5) years beginning on the date this permit becomes effective and ending five (5) years later.
3. Pursuant to §26.4 of Regulation #26, it is the duty of the permittee to submit a complete application for permit renewal at least six (6) months prior to the date of permit expiration. Permit expiration terminates the permittee's right to operate unless a complete renewal application was submitted at least six (6) months prior to permit expiration, in which case the existing permit shall remain in effect until the Department takes final action on the renewal application. The Department will not necessarily notify the permittee when the permit renewal application is due.
4. Pursuant to 40 C.F.R. 70.6(a)(1)(ii) and §26.7 of Regulation #26, where an applicable requirement of the Clean Air Act, as amended, 42 U.S.C. 7401, *et seq* (Act) is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, both provisions are incorporated into the permit and shall be enforceable by the Director or Administrator.
5. Pursuant to 40 C.F.R. 70.6(a)(3)(ii)(A) and §26.7 of Regulation #26, records of monitoring information required by this permit shall include the following:
 - a. The date, place as defined in this permit, and time of sampling or measurements;
 - b. The date(s) analyses were performed;
 - c. The company or entity that performed the analyses;
 - d. The analytical techniques or methods used;

Alcoa Industrial Chemicals
1527-AOP-R1
630010

- g. The probable cause of such deviations,
- h. Any corrective actions or preventive measures taken or being take to prevent such deviations in the future, and
- i. The name of the person submitting the report.

A full report shall be made in writing to the Department within five (5) business days of discovery of the occurrence and shall include in addition to the information required by initial report a schedule of actions to be taken to eliminate future occurrences and/or to minimize the amount by which the permits limits are exceeded and to reduce the length of time for which said limits are exceeded. If the permittee wishes, they may submit a full report in writing (by facsimile, overnight courier, or other means) within 24 hours of discovery of the occurrence and such report will serve as both the initial report and full report.

- 9. Pursuant to 40 C.F.R. 70.6(a)(5) and §26.7 of Regulation #26, and A.C.A. §8-4-203, as referenced by §8-4-304 and §8-4-311, if any provision of the permit or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications hereof which can be given effect without the invalid provision or application, and to this end, provisions of this Regulation are declared to be separable and severable.
- 10. Pursuant to 40 C.F.R. 70.6(a)(6)(i) and §26.7 of Regulation #26, the permittee must comply with all conditions of this Part 70 permit. Any permit noncompliance with applicable requirements as defined in Regulation 26 constitutes a violation of the Clean Air Act, as amended, 42 U.S.C. 7401, *et seq.* and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. Any permit noncompliance with a state requirement constitutes a violation of the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 *et seq.*) and is also grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.
- 11. Pursuant to 40 C.F.R. 70.6(a)(6)(ii) and §26.7 of Regulation #26, it shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- 12. Pursuant to 40 C.F.R. 70.6(a)(6)(iii) and §26.7 of Regulation #26, this permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or

Alcoa Industrial Chemicals
1527-AOP-R1
630010

20. Pursuant to 40 C.F.R. 70.6(c)(2) and §26.7 of Regulation #26, the permittee shall allow an authorized representative of the Department, upon presentation of credentials, to perform the following:
- Enter upon the permittee's premises where the permitted source is located or emissions-related activity is conducted, or where records must be kept under the conditions of this permit;
 - Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 - Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
 - As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with this permit or applicable requirements.
21. Pursuant to 40 C.F.R. 70.6(c)(5) and §26.7 of Regulation #26, the permittee shall submit a compliance certification with terms and conditions contained in the permit, including emission limitations, standards, or work practices. This compliance certification shall be submitted annually and shall be submitted to the Administrator as well as to the Department. All compliance certifications required by this permit shall include the following:
- The identification of each term or condition of the permit that is the basis of the certification;
 - The compliance status;
 - Whether compliance was continuous or intermittent;
 - The method(s) used for determining the compliance status of the source, currently and over the reporting period established by the monitoring requirements of this permit; and
 - Such other facts as the Department may require elsewhere in this permit or by §114(a)(3) and 504(b) of the Act.
22. Pursuant to §26.7 of Regulation #26, nothing in this permit shall alter or affect the following:
- The provisions of Section 303 of the Act (emergency orders), including the authority of the Administrator under that section;

APPENDIX A

Alcoa Industrial Chemicals
1527-AOP-R0
630010

Summary of Testing Requirements		
Source	Testing	Pollutant
046BL01, 02, 03, 04, 05	✓	NO _x
	✓	CO
451BH011	✓	PM
405EP0133	✓	PM, CO, NO _x
	✓	HF, HCl
405EP0233	✓	PM, CO, NO _x
	✓	HF, HCl
060EP0241	✓	PM, CO, NO _x
060BH0573	✓	PM
425EP04	✓	PM, CO, NO _x
426EP06	✓	PM, CO, NO _x
426EP07	✓	PM, CO, NO _x

APPENDIX B

OPACITY SURVEY

SECTION TO BE READ:

WEEK OF:

MAIN SOURCES				SECTION 1				SECTION 2			
SN	Process Unit	Permit Opacity	Opacity	SN	Process Unit	Permit Opacity	Opacity	SN	Process Unit	Permit Opacity	Opacity
046BL01	#1 Package Boiler	5 ^a		045BH69	BV-69 Alumina D/C	5 ^a		141BH01	Milled Product D/C	5 ^a	
046BL02	#2 Package Boiler	5 ^a		045BH70	BV-70 Alumina D/C	5 ^a		141BH02	Glass Frit/Fines D/C	5 ^a	
046BL03	#3 Package Boiler	5 ^a		045BH88	MgO Storage D/C	5 ^a		141BH03	Nuisance D/C	5 ^a	
046BL04	#4 Package Boiler	5 ^a		045BH87	Lime Storage D/C	5 ^a		141BH04	Mill Feed Tank D/C	5 ^a	
046BL05	#5 Package Boiler	5 ^a		051BH03	#3 Bin Vent D/C	5 ^a		141BH05	#1 Classifier D/C	5 ^a	
060EP0241	#2 Kiln ESP	20 ^b		051BH04	#4 Bin Vent D/C	5 ^a		141BH06	#2 Classifier D/C	5 ^a	
060BH0573	Clinker D/C	5 ^a		051BH06	#1 Airslide D/C	5 ^a		400BH01	#5 Storage Bin D/C	5 ^a	
400SB01	#1 Scrubber	20 ^b		051BH07	#3 Airslide D/C	5 ^a		400BH02	Bulk Loading D/C	5 ^a	
400SB02	#2 Scrubber	20 ^b		051BH11	Unload Hopper D/C	5 ^a		400BH03	#2 Storage Tank D/C	5 ^a	
400SB03	#3 Scrubber	20 ^b		055BH01	#1 Blender D/C	5 ^a		400BH04	#1 Storage Tank D/C	5 ^a	
405EP0133	#1 ESP	20 ^b		055BH02	#2 Blender D/C	5 ^a		400BH05	#3A Storage Tank D/C	5 ^a	
405EP0233	#2 ESP	20 ^b		055BH03	Nuisance D/C	5 ^a		400BH06	#3B Storage Tank D/C	5 ^a	
425EP04	#4 ESP	20 ^b		060BH05	#1 Blender	5 ^a		400BH07	#4 Storage Tank D/C	5 ^a	
426EP01	#6 ESP	20 ^b		060BH406	#4 Blender	5 ^a		400BH08	#1 Rework Tank D/C	5 ^a	
426EP02	#7 ESP	20 ^b		060BH02	#2 Blender	5 ^a					
				060BH0528	#3B Blender	5 ^a					
				060BH0510	#3A Blender	5 ^a					
				420BH7614	420-3 D/C	5 ^a					
				420BH7801	420-5 Bulk Load	5 ^a					
				060BH0285	Raw Mix D/C	5 ^a					
				060BH0402	#3 A3 Tank D/C	5 ^a					
				060BH06	#2 Surge D/C	5 ^a					

^aThis opacity limit assigned pursuant to §18.501 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311. (Plantwide Condition 8)

^bThis opacity limit assigned pursuant to §19.503 of Regulation 19 and 40 CFR Part 52, Subpart E. (Plantwide Condition 9)

SN	Process Unit	Permit Opacity	Weekly Opacity	SN	Process Unit	Permit Opacity	Weekly Opacity	SN	Process Unit	Permit Opacity	Weekly Opacity
SECTION 3				SECTION 4				SECTION 5			
405BH312	#1 Lift System d/c	5 ^a		420BH05	#1 Bagging D/C	5 ^a		426BH1045	#3 Ceramic Mill D/C	5 ^a	
405BH308	#1 Blender D/C	5 ^a		420BH06	#2 Bagging D/C	5 ^a		426BH7086	Boric Acid D/C	5 ^a	
405BH309	#2 Blender D/C	5 ^a		420BH6193	#1 AirSlide Vent	5 ^a		426BH1032	#2 Ceramic Mill D/C	5 ^a	
405BH310	#1 High Tank D/C	5 ^a		420BH6194	#2 AirSlide Vent	5 ^a		426BH5044	12-1 Bin D/C	5 ^a	
405BH03	Bldg 405b nuisance	5 ^a		420ABH7851	Majac D/C	5 ^a		426BH5045	Bulk Load D/C	5 ^a	
405BH04	#4 Alumina D/C	5 ^a		420ABH7714	420A-2 Course D/C	5 ^a					
405BH05	#5 Alumina D/C	5 ^a		420ABH7716	420A-3 Fines D/C	5 ^a					
405BH06	#6 Alumina D/C	5 ^a		420ABH7810	Norolo XFER D/C	5 ^a					
410BH01	#1 D/C	5 ^a		420ABH7811	#7 Product Tank	5 ^a					
410BH02	#2 mic-pulsair D/C	5 ^a									
410BH03	Nuisance, #3	5 ^a		425BH01	Low Iron Tabular	5 ^a		435BH0712	Product Tank #3/#4	5 ^a	
410BH04	Bin Vent #1 Feed	5 ^a		425BH02	High Iron Tabular	5 ^a		435BH0754	Blender #4 D/C	5 ^a	
410BH05	Bin Vent #2 Feed	5 ^a		425BH1003	325 Ceramic Mill	5 ^a		435BH0760	Blender #5 D/C	5 ^a	
410BH06	#2 Product Tank D/C	5 ^a		425BH03	Ground Ore D/C	5 ^a		435BH0770	Rework System D/C	5 ^a	
415BH6191	415-4 D/C	5 ^a		425BH3343	8th Floor D/C	5 ^a		451BH01	#1 Product Bin Vent d/c	5 ^a	
415BH6451	415-6 D/C	5 ^a		425BH04	4th Floor D/C	5 ^a		451BH02	H-700 Twin Pro. D/C	5 ^a	
415BH0401	415-7 D/C	5 ^a		425BH05	#2 Flex-Kleen D/C	5 ^a		451BH04	Ground Gel D/C	5 ^a	
415BH0402	415-8 D/C	5 ^a		425BH06	#3 Flex-Kleen D/C	5 ^a		451BH05	Auxiliary Spray Dryer	5 ^a	
415BH6225	415-9 D/C	5 ^a		425BH07	425A DPP D/C	5 ^a		451BH06	Hydral bulk loading d/c	5 ^a	
415BH6227	415-20 D/C	5 ^a		425BH08	T-1 Mill D/C	5 ^a		451BH07	PD Nuisance D/C	5 ^a	
415BH6192	415-11 D/C	5 ^a		425BH1037	Product D/C	5 ^a		451BH08	Spacerite Feed Tank	5 ^a	
415BH6401	415-12 D/C	5 ^a		426BH3320	#4 Tabular D/C	5 ^a		451BH09	Spacerite Product D/C	5 ^a	
415BH6202	#2 3W1 D/C	5 ^a		426BH3317	#3 Tabular D/C	5 ^a		451BH010	CX200S Nuisance D/C	5 ^a	
415BH6204	#2 3W2 D/C	5 ^a		426BH5041	Unground Ore D/C	5 ^a		451BH011	Aux. Spray Dryer D/C	10	
415BH6201	#1 3W1 D/C	5 ^a		426BH5015	Ground Ore D/C	5 ^a		451BH012	#4 Bin Vent D/C	5 ^a	
415BH6203	#1 3W2 D/C	5 ^a		426BH3311	#1 Tabular D/C	5 ^a		451BH013	#2 Spray Dryer Nuis.D/C	5 ^a	
420BH6260	420-4 Flex-Kleen	5 ^a		426BH3314	#2 Tabular D/C	5 ^a		451BH014	#1 Spray Dryer Pro. Collector	5 ^a	
								451CY01	Alumina Spray Dryer	20 ^b	
								451TD01	#1 Tunnel Dryer	20 ^b	
								451TD02	#2 Tunnel Dryer	20 ^b	
								451TD03	CX200S Pre-Dryer	20 ^b	
								451TD04	CX200S Final Dryer	20 ^b	
COMMENTS:				FUGITIVE EMISSIONS:							

Observed By: _____ Date: _____ Checked By: _____ Date: _____ Approved By: _____ Date: _____

Excursion Reports Initiated

^aThis opacity limit assigned pursuant to §18.501 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311. (Plantwide Condition 8)

^bThis opacity limit assigned pursuant to §19.503 of Regulation 19 and 40 CFR Part 52, Subpart E. (Plantwide Condition 9)

APPENDIX C

Subpart Dc—Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

SOURCE: 55 FR 37683, Sept. 12, 1990, unless otherwise noted.

§ 60.40c Applicability and delegation of authority.

(a) Except as provided in paragraph (d) of this section, the affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million Btu per hour (Btu/hr)) or less, but greater than or equal to 2.9 MW (10 million Btu/hr).

(b) In delegating implementation and enforcement authority to a State under section 111(c) of the Clean Air Act, § 60.48c(a)(4) shall be retained by the Administrator and not transferred to a State.

(c) Steam generating units which meet the applicability requirements in paragraph (a) of this section are not subject to the sulfur dioxide (SO₂) or particulate matter (PM) emission limits, performance testing requirements, or monitoring requirements under this subpart (§§ 60.42c, 60.43c, 60.44c, 60.45c, 60.46c, or 60.47c) during periods of combustion research, as defined in § 60.41c.

(d) Any temporary change to an existing steam generating unit for the purpose of conducting combustion research is not considered a modification under § 60.14.

[55 FR 37683, Sept. 12, 1990, as amended at 61 FR 20736, May 8, 1996]

§ 60.41c Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act and in subpart A of this part.

Annual capacity factor means the ratio between the actual heat input to a steam generating unit from an individual fuel or combination of fuels during a period of 12 consecutive calendar months and the potential heat input to the steam generating unit from all fuels had the steam generating unit been operated for 8,760 hours during that 12-month period at the maximum design heat input capacity. In the case of steam generating units that are rented or leased, the actual heat input shall be determined based on the combined heat input from all operations of the affected facility during a period of 12 consecutive calendar months.

Coal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society for Testing and Materials in ASTM D388-77, "Standard Specification for

Classification of Coals by Rank" (incorporated by reference—see § 60.17); coal refuse; and petroleum coke. Synthetic fuels derived from coal for the purpose of creating useful heat, including but not limited to solvent-refined coal, gasified coal, coal-oil mixtures, and coal-water mixtures, are included in this definition for the purposes of this subpart.

Coal refuse means any by-product of coal mining or coal cleaning operations with an ash content greater than 50 percent (by weight) and a heating value less than 13,900 kilojoules per kilogram (kJ/kg) (6,000 Btu per pound (Btu/lb)) on a dry basis.

Cogeneration steam generating unit means a steam generating unit that simultaneously produces both electrical (or mechanical) and thermal energy from the same primary energy source.

Combined cycle system means a system in which a separate source (such as a stationary gas turbine, internal combustion engine, or kiln) provides exhaust gas to a steam generating unit.

Combustion research means the experimental firing of any fuel or combination of fuels in a steam generating unit for the purpose of conducting research and development of more efficient combustion or more effective prevention or control of air pollutant emissions from combustion, provided that, during these periods of research and development, the heat generated is not used for any purpose other than preheating combustion air for use by that steam generating unit (i.e., the heat generated is released to the atmosphere without being used for space heating, process heating, driving pumps, preheating combustion air for other units, generating electricity, or any other purpose).

Conventional technology means wet flue gas desulfurization technology, dry flue gas desulfurization technology, atmospheric fluidized bed combustion technology, and oil hydrodesulfurization technology.

Distillate oil means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396-78, "Standard Specification for Fuel Oils" (incorporated by reference—see § 60.17).

Dry flue gas desulfurization technology means a sulfur dioxide (SO₂) control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline slurry or solution and forming a dry powder material. This definition includes devices where the dry powder material is subsequently converted to another form. Alkaline reagents used in dry flue gas desulfurization systems include, but are not limited to, lime and sodium compounds.

§ 60.41c

Duct burner means a device that combusts fuel and that is placed in the exhaust duct from another source (such as a stationary gas turbine, internal combustion engine, kiln, etc.) to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a steam generating unit.

Emerging technology means any SO₂ control system that is not defined as a conventional technology under this section, and for which the owner or operator of the affected facility has received approval from the Administrator to operate as an emerging technology under § 60.48c(a)(4).

Federally enforceable means all limitations and conditions that are enforceable by the Administrator, including the requirements of 40 CFR Parts 60 and 61, requirements within any applicable State implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 40 CFR 51.24.

Fluidized bed combustion technology means a device wherein fuel is distributed onto a bed (or series of beds) of limestone aggregate (or other sorbent materials) for combustion; and these materials are forced upward in the device by the flow of combustion air and the gaseous products of combustion. Fluidized bed combustion technology includes, but is not limited to, bubbling bed units and circulating bed units.

Fuel pretreatment means a process that removes a portion of the sulfur in a fuel before combustion of the fuel in a steam generating unit.

Heat input means heat derived from combustion of fuel in a steam generating unit and does not include the heat derived from preheated combustion air, recirculated flue gases, or exhaust gases from other sources (such as stationary gas turbines, internal combustion engines, and kilns).

Heat transfer medium means any material that is used to transfer heat from one point to another point.

Maximum design heat input capacity means the ability of a steam generating unit to combust a stated maximum amount of fuel (or combination of fuels) on a steady state basis as determined by the physical design and characteristics of the steam generating unit.

Natural gas means (1) a naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane, or (2) liquefied petroleum (LP) gas, as defined by the American Society for Testing and Materials in ASTM D1835-96, "Standard Specification for Liquefied Petroleum Gases" (incorporated by reference—see § 60.17).

Noncontinental area means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.

Oil means crude oil or petroleum, or a liquid fuel derived from crude oil or petroleum, including distillate oil and residual oil.

Potential sulfur dioxide emission rate means the theoretical SO₂ emissions (nanograms per joule [ng/J], or pounds per million Btu [lb/million Btu] heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems.

Process heater means a device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst.

Residual oil means crude oil, fuel oil that does not comply with the specifications under the definition of distillate oil, and all fuel oil numbers 4, 5, and 6, as defined by the American Society for Testing and Materials in ASTM D396-78, "Standard Specification for Fuel Oils" (incorporated by reference—see § 60.17).

Steam generating unit means a device that combusts any fuel and produces steam or heats water or any other heat transfer medium. This term includes any duct burner that combusts fuel and is part of a combined cycle system. This term does not include process heaters as defined in this subpart.

Steam generating unit operating day means a 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the steam generating unit. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

Wet flue gas desulfurization technology means an SO₂ control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline slurry or solution and forming a liquid material. This definition includes devices where the liquid material is subsequently converted to another form. Alkaline reagents used in wet flue gas desulfurization systems include, but are not limited to, lime, limestone, and sodium compounds.

Wet scrubber system means any emission control device that mixes an aqueous stream or slurry with the exhaust gases from a steam generating unit to control emissions of particulate matter (PM) or SO₂.

Wood means wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including but not limited to sawdust, sanderdust, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood or other forest residues.

[55 FR 37683, Sept. 12, 1990, as amended at 61 FR 20736, May 8, 1996]

§ 60.42c Standard for sulfur dioxide.

(a) Except as provided in paragraphs (b), (c), and (e) of this section, on and after the date on which the initial performance test is completed or required to be completed under § 60.8 of this part, whichever date comes first, the owner or operator of an affected facility that combusts only coal shall neither: (1) cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 10 percent (0.10) of the potential SO₂ emission rate (90 percent reduction); nor (2) cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 520 ng/J (1.2 lb/million Btu) heat input. If coal is combusted with other fuels, the affected facility is subject to the 90 percent SO₂ reduction requirement specified in this paragraph and the emission limit is determined pursuant to paragraph (e)(2) of this section.

(b) Except as provided in paragraphs (c) and (e) of this section, on and after the date on which the initial performance test is completed or required to be completed under § 60.8 of this part, whichever date comes first, the owner or operator of an affected facility that:

(1) Combusts coal refuse alone in a fluidized bed combustion steam generating unit shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 20 percent (0.20) of the potential SO₂ emission rate (80 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 520 ng/J (1.2 lb/million Btu) heat input. If coal is fired with coal refuse, the affected facility is subject to paragraph (a) of this section. If oil or any other fuel (except coal) is fired with coal refuse, the affected facility is subject to the 90 percent SO₂ reduction requirement specified in paragraph (a) of this section and the emission limit determined pursuant to paragraph (c)(2) of this section.

(2) Combusts only coal and that uses an emerging technology for the control of SO₂ emissions shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 50 percent (0.50) of the potential SO₂ emission rate (50 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 260 ng/J (0.60 lb/million Btu) heat input. If coal is combusted with other fuels, the affected facility is subject to the 50 percent SO₂ reduction requirement specified in this paragraph and the emission limit determined pursuant to paragraph (e)(2) of this section.

(c) On and after the date on which the initial performance test is completed or required to be completed under § 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts coal, alone or in combination with any other fuel, and is listed in paragraphs (c)(1), (2), (3), or (4) of this section shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of the emission limit determined pursuant to paragraph (e)(2) of this section. Percent reduction requirements are not applicable to affected facilities under this paragraph.

(1) Affected facilities that have a heat input capacity of 22 MW (75 million Btu/hr) or less.

(2) Affected facilities that have an annual capacity for coal of 55 percent (0.55) or less and are subject to a Federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for coal of 55 percent (0.55) or less.

(3) Affected facilities located in a noncontiguous area.

(4) Affected facilities that combust coal in a duct burner as part of a combined cycle system where 30 percent (0.30) or less of the heat entering the steam generating unit is from combustion of coal in the duct burner and 70 percent (0.70) or more of the heat entering the steam generating unit is from exhaust gases entering the duct burner.

(d) On and after the date on which the initial performance test is completed or required to be completed under § 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts oil shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 215 ng/J (0.50 lb/million Btu) heat input; or, as an alternative, no owner or operator of an affected facility that combusts oil shall combust oil in the affected facility that contains greater than 0.5 weight percent sulfur. The percent reduction requirements are not applicable to affected facilities under this paragraph.

(e) On and after the date on which the initial performance test is completed or required to be completed under § 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts coal, oil, or coal and oil with any other fuel shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of the following:

(1) The percent of potential SO₂ emission rate required under paragraph (a) or (b)(2) of this section, as applicable, for any affected facility that

(i) Combusts coal in combination with any other fuel,

§ 60.43c

(ii) Has a heat input capacity greater than 22 MW (75 million Btu/hr), and

(iii) Has an annual capacity factor for coal greater than 55 percent (0.55); and

(2) The emission limit determined according to the following formula for any affected facility that combusts coal, oil, or coal and oil with any other fuel:

$$E_s = (K_a H_a + K_b H_b + K_c H_c) / (H_a + H_b + H_c)$$

where:

E_s is the SO₂ emission limit, expressed in ng/J or lb/million Btu heat input,

K_a is 520 ng/J (1.2 lb/million Btu),

K_b is 260 ng/J (0.60 lb/million Btu),

K_c is 215 ng/J (0.50 lb/million Btu),

H_a is the heat input from the combustion of coal, except coal combusted in an affected facility subject to paragraph (b)(2) of this section, in Joules (J) [million Btu]

H_b is the heat input from the combustion of coal in an affected facility subject to paragraph (b)(2) of this section, in J (million Btu)

H_c is the heat input from the combustion of oil, in J (million Btu).

(f) Reduction in the potential SO₂ emission rate through fuel pretreatment is not credited toward the percent reduction requirement under paragraph (b)(2) of this section unless:

(1) Fuel pretreatment results in a 50 percent (0.50) or greater reduction in the potential SO₂ emission rate; and

(2) Emissions from the pretreated fuel (without either combustion or post-combustion SO₂ control) are equal to or less than the emission limits specified under paragraph (b)(2) of this section.

(g) Except as provided in paragraph (h) of this section, compliance with the percent reduction requirements, fuel oil sulfur limits, and emission limits of this section shall be determined on a 30-day rolling average basis.

(h) For affected facilities listed under paragraphs (h)(1), (2), or (3) of this section, compliance with the emission limits or fuel oil sulfur limits under this section may be determined based on a certification from the fuel supplier, as described under § 60.48c(f)(1), (2), or (3), as applicable.

(1) Distillate oil-fired affected facilities with heat input capacities between 2.9 and 29 MW (10 and 100 million Btu/hr).

(2) Residual oil-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 million Btu/hr).

(3) Coal-fired facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 million Btu/hr).

(i) The SO₂ emission limits, fuel oil sulfur limits, and percent reduction requirements under this section apply at all times, including periods of startup, shutdown, and malfunction.

(j) Only the heat input supplied to the affected facility from the combustion of coal and oil is counted under this section. No credit is provided for the heat input to the affected facility from wood or other fuels or for heat derived from exhaust gases from other sources, such as stationary gas turbines, internal combustion engines, and kilns.

§ 60.43c Standard for particulate matter.

(a) On and after the date on which the initial performance test is completed or required to be completed under § 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts coal or combusts mixtures of coal with other fuels and has a heat input capacity of 8.7 MW (30 million Btu/hr) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emission limits:

(1) 22 ng/J (0.65 lb/million Btu) heat input if the affected facility combusts only coal, or combusts coal with other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.

(2) 43 ng/J (0.10 lb/million Btu) heat input if the affected facility combusts coal with other fuels, has an annual capacity factor for the other fuels greater than 10 percent (0.10), and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor greater than 10 percent (0.10) for fuels other than coal.

(b) On and after the date on which the initial performance test is completed or required to be completed under § 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts wood or combusts mixtures of wood with other fuels (except coal) and has a heat input capacity of 8.7 MW (30 million Btu/hr) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emissions limits:

(1) 43 ng/J (0.10 lb/million Btu) heat input if the affected facility has an annual capacity factor for wood greater than 30 percent (0.30); or

(2) 130 ng/J (0.30 lb/million Btu) heat input if the affected facility has an annual capacity factor for wood of 30 percent (0.30) or less and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for wood of 30 percent (0.30) or less.

(c) On and after the date on which the initial performance test is completed or required to be completed under § 60.8 of this part, whichever

§ 60.44c

date comes first, no owner or operator of an affected facility that combusts coal, wood, or oil and has a heat input capacity of 8.7 MW (30 million Btu/hr) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity.

(d) The PM and opacity standards under this section apply at all times, except during periods of startup, shutdown, or malfunction.

§ 60.44c Compliance and performance test methods and procedures for sulfur dioxide.

(a) Except as provided in paragraphs (g) and (h) of this section and in § 60.8(b), performance tests required under § 60.8 shall be conducted following the procedures specified in paragraphs (b), (c), (d), (e), and (f) of this section, as applicable. Section 60.8(f) does not apply to this section. The 30-day notice required in § 60.8(d) applies only to the initial performance test unless otherwise specified by the Administrator.

(b) The initial performance test required under § 60.8 shall be conducted over 30 consecutive operating days of the steam generating unit. Compliance with the percent reduction requirements and SO₂ emission limits under § 60.42c shall be determined using a 30-day average. The first operating day included in the initial performance test shall be scheduled within 30 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after the initial startup of the facility. The steam generating unit load during the 30-day period does not have to be the maximum design heat input capacity, but must be representative of future operating conditions.

(c) After the initial performance test required under paragraph (b) and § 60.8, compliance with the percent reduction requirements and SO₂ emission limits under § 60.42c is based on the average percent reduction and the average SO₂ emission rates for 30 consecutive steam generating unit operating days. A separate performance test is completed at the end of each steam generating unit operating day, and a new 30-day average percent reduction and SO₂ emission rate are calculated to show compliance with the standard.

(d) If only coal, only oil, or a mixture of coal and oil is combusted in an affected facility, the procedures in Method 19 are used to determine the hourly SO₂ emission rate (E_{ho}) and the 30-day average SO₂ emission rate (E_{ao}). The hourly averages used to compute the 30-day averages are obtained from the continuous emission monitoring system (CEMS). Method 19 shall be used to cal-

culate E_{ao} when using daily fuel sampling or Method 6B.

(e) If coal, oil, or coal and oil are combusted with other fuels:

(1) An adjusted E_{ho} (E_{ho}^o) is used in Equation 19-19 of Method 19 to compute the adjusted E_{ao} (E_{ao}^o). The E_{ho}^o is computed using the following formula:

$$E_{ho}^o = [E_{ho} \cdot E_w(1 - X_k)] / X_k$$

where:

E_{ho}^o is the adjusted E_{ho} , ng/J (lb/million Btu)

E_{ho} is the hourly SO₂ emission rate, ng/J (lb/million Btu)

E_w is the SO₂ concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 9, ng/J (lb/million Btu). The value E_w for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure E_w if the owner or operator elects to assume $E_w = 0$.

X_k is the fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19.

(2) The owner or operator of an affected facility that qualifies under the provisions of § 60.42c(e) or (d) [where percent reduction is not required] does not have to measure the parameters E_w or X_k if the owner or operator of the affected facility elects to measure emission rates of the coal or oil using the fuel sampling and analysis procedures under Method 19.

(f) Affected facilities subject to the percent reduction requirements under § 60.42c(a) or (b) shall determine compliance with the SO₂ emission limits under § 60.42c pursuant to paragraphs (d) or (e) of this section, and shall determine compliance with the percent reduction requirements using the following procedures:

(1) If only coal is combusted, the percent of potential SO₂ emission rate is computed using the following formula:

$$\%P_s = 100(1 - \%R_p/100)(1 - \%R_r/100)$$

where

$\%P_s$ is the percent of potential SO₂ emission rate, in percent

$\%R_p$ is the SO₂ removal efficiency of the control device as determined by Method 19, in percent

$\%R_r$ is the SO₂ removal efficiency of fuel pretreatment as determined by Method 19, in percent

(2) If coal, oil, or coal and oil are combusted with other fuels, the same procedures required in paragraph (f)(1) of this section are used, except as provided for in the following:

(i) To compute the $\%P_s$, an adjusted $\%R_p$ ($\%R_p^o$) is computed from E_{ao}^o from paragraph (e)(1) of this section and an adjusted average SO₂ inlet rate (E_{ai}^o) using the following formula:

$$\%R_p^o = 100 [1.0 \cdot E_{ao}^o / E_{ai}^o]$$

where:

§ 60.45c

$\%R_g^o$ is the adjusted $\%R_g$, in percent
 E_{ao}^o is the adjusted E_{ao} , ng/J (lb/million Btu)
 E_{in}^o is the adjusted average SO_2 inlet rate, ng/J (lb/million Btu)

(ii) To compute E_{in}^o , an adjusted hourly SO_2 inlet rate (E_{in}^o) is used. The E_{in}^o is computed using the following formula:

$$E_{in}^o = [E_{in} \cdot E_w \cdot (1 - X_k)] / X_k$$

where:

E_{in}^o is the adjusted E_{in} , ng/J (lb/million Btu)
 E_{in} is the hourly SO_2 inlet rate, ng/J (lb/million Btu)
 E_w is the SO_2 concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 19, ng/J (lb/million Btu). The value E_w for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure E_w if the owner or operator elects to assume $E_w = 0$.

X_k is the fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19.

(g) For oil-fired affected facilities where the owner or operator seeks to demonstrate compliance with the fuel oil sulfur limits under § 60.42c based on shipment fuel sampling, the initial performance test shall consist of sampling and analyzing the oil in the initial tank of oil to be fired in the steam generating unit to demonstrate that the oil contains 0.5 weight percent sulfur or less. Thereafter, the owner or operator of the affected facility shall sample the oil in the fuel tank after each new shipment of oil is received, as described under § 60.46c(d)(2).

(h) For affected facilities subject to § 60.42c(h)(1), (2), or (3) where the owner or operator seeks to demonstrate compliance with the SO_2 standards based on fuel supplier certification, the performance test shall consist of the certification, the certification from the fuel supplier, as described under § 60.48c(f)(1), (2), or (3), as applicable.

(i) The owner or operator of an affected facility seeking to demonstrate compliance with the SO_2 standards under § 60.42c(c)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour averaged firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

(j) The owner or operator of an affected facility shall use all valid SO_2 emissions data in calculating $\%P_s$ and E_{ho} under paragraphs (d), (e), or (f) of this section, as applicable, whether or not the minimum emissions data requirements under § 60.46c(f) are achieved. All valid emissions data, including valid data collected during periods of startup, shutdown, and malfunction, shall be used in calculating $\%P_s$ or E_{ho} pursuant to paragraphs (d), (e), or (f) of this section, as applicable.

§ 60.45c Compliance and performance test methods and procedures for particulate matter.

(a) The owner or operator of an affected facility subject to the PM and/or opacity standards under § 60.43c shall conduct an initial performance test as required under § 60.8, and shall conduct subsequent performance tests as requested by the Administrator, to determine compliance with the standards using the following procedures and reference methods.

(1) Method 1 shall be used to select the sampling site and the number of traverse sampling points. The sampling time for each run shall be at least 120 minutes and the minimum sampling volume shall be 1.7 dry square cubic meters (dscm) [60 dry square cubic feet (dscf)] except that smaller sampling times or volumes may be approved by the Administrator when necessitated by process variables or other factors.

(2) Method 3 shall be used for gas analysis when applying Method 5, Method 5B, or Method 17.

(3) Method 5, Method 5B, or Method 17 shall be used to measure the concentration of PM as follows:

(i) Method 5 may be used only at affected facilities without wet scrubber systems.

(ii) Method 17 may be used at affected facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of Sections 2.1 and 2.3 of Method 5B may be used in Method 17 only if Method 17 is used in conjunction with a wet scrubber system. Method 17 shall not be used in conjunction with a wet scrubber system if the effluent is saturated or laden with water droplets.

(iii) Method 5B may be used in conjunction with a wet scrubber system.

(4) For Method 5 or Method 5B, the temperature of the sample gas in the probe and filter holder shall be monitored and maintained at 160 °C (320 °F).

(5) For determination of PM emissions, an oxygen or carbon dioxide measurement shall be obtained simultaneously with each run of Method 5,

§ 60.46c

Method 5B, or Method 17 by traversing the duct at the same sampling location.

(6) For each run using Method 5, Method 5B, or Method 17, the emission rates expressed in ng/J (lb/million Btu) heat input shall be determined using:

- (i) The oxygen or carbon dioxide measurements and PM measurements obtained under this section,
- (ii) The dry basis F-factor, and
- (iii) The dry basis emission rate calculation procedure contained in Method 19 (appendix A).

(7) Method 9 (6-minute average of 24 observations) shall be used for determining the opacity of stack emissions.

(b) The owner or operator of an affected facility seeking to demonstrate compliance with the PM standards under § 60.43c(b)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

§ 60.46c Emission monitoring for sulfur dioxide

(a) Except as provided in paragraphs (d) and (e) of this section, the owner or operator of an affected facility subject to the SO₂ emission limits under § 60.42c shall install, calibrate, maintain, and operate a CEMS for measuring SO₂ concentrations and either oxygen or carbon dioxide concentrations at the outlet of the SO₂ control device (or the outlet of the steam generating unit if no SO₂ control device is used), and shall record the output of the system. The owner or operator of an affected facility subject to the percent reduction requirements under § 60.42c shall measure SO₂ concentrations and either oxygen or carbon dioxide concentrations at both the inlet and outlet of the SO₂ control device.

(b) The 1-hour average SO₂ emission rates measured by a CEM shall be expressed in ng/J or lb/million Btu heat input and shall be used to calculate the average emission rates under § 60.42c. Each 1-hour average SO₂ emission rate must be based on at least 30 minutes of operation and include at least 2 data points representing two 15-minute periods. Hourly SO₂ emission rates are not calculated if the affected facility is operated less than 30 minutes in a 1-hour period and are not

counted toward determination of a steam generating unit operating day.

(c) The procedures under § 60.13 shall be followed for installation, evaluation, and operation of the CEMS.

(1) All CEMS shall be operated in accordance with the applicable procedures under Performance Specifications 1, 2, and 3 (appendix B).

(2) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 (appendix F).

(3) For affected facilities subject to the percent reduction requirements under § 60.42c, the span value of the SO₂ CEMS at the inlet to the SO₂ control device shall be 125 percent of the maximum estimated hourly potential SO₂ emission rate of the fuel combusted, and the span value of the SO₂ CEMS at the outlet from the SO₂ control device shall be 50 percent of the maximum estimated hourly potential SO₂ emission rate of the fuel combusted.

(4) For affected facilities that are not subject to the percent reduction requirements of § 60.42c, the span value of the SO₂ CEMS at the outlet from the SO₂ control device (or outlet of the steam generating unit if no SO₂ control device is used) shall be 125 percent of the maximum estimated hourly potential SO₂ emission rate of the fuel combusted.

(d) As an alternative to operating a CEMS at the inlet to the SO₂ control device (or outlet of the steam generating unit if no SO₂ control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO₂ emission rate by sampling the fuel prior to combustion. As an alternative to operating a CEM at the outlet from the SO₂ control device (or outlet of the steam generating unit if no SO₂ control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO₂ emission rate by using Method 6B. Fuel sampling shall be conducted pursuant to either paragraph (d)(1) or (d)(2) of this section. Method 6B shall be conducted pursuant to paragraph (d)(3) of this section.

(1) For affected facilities combusting coal or oil, coal or oil samples shall be collected daily in an as-fired condition at the inlet to the steam generating unit and analyzed for sulfur content and heat content according to the Method 19. Method 19 provides procedures for converting these measurements into the format to be used in calculating the average SO₂ input rate.

(2) As an alternative fuel sampling procedure for affected facilities combusting oil, oil samples may be collected from the fuel tank for each steam generating unit immediately after the fuel tank is filled and before any oil is combusted. The owner or operator of the affected facility shall analyze the oil sample to determine the sulfur con-

§ 60.47c

tent of the oil. If a partially empty fuel tank is refilled, a new sample and analysis of the fuel in the tank would be required upon filling. Results of the fuel analysis taken after each new shipment of oil is received shall be used as the daily value when calculating the 30-day rolling average until the next shipment is received. If the fuel analysis shows that the sulfur content in the fuel tank is greater than 0.5 weight percent sulfur, the owner or operator shall ensure that the sulfur content of subsequent oil shipments is low enough to cause the 30-day rolling average sulfur content to be 0.5 weight percent sulfur or less.

(3) Method 6B may be used in lieu of CEMS to measure SO₂ at the inlet or outlet of the SO₂ control system. An initial stratification test is required to verify the adequacy of the Method 6B sampling location. The stratification test shall consist of three paired runs of a suitable SO₂ and carbon dioxide measurement train operated at the candidate location and a second similar train operated according to the procedures in § 3.2 and the applicable procedures in section 7 of Performance Specification 2 (appendix B). Method 6B, Method 6A, or a combination of Methods 6 and 3 or Methods 6C and 3A are suitable measurement techniques. If Method 6B is used for the second train, sampling time and timer operation may be adjusted for the stratification test as long as an adequate sample volume is collected; however, both sampling trains are to be operated similarly. For the location to be adequate for Method 6B 24-hour tests, the mean of the absolute difference between the three paired runs must be less than 10 percent (0.10).

(e) The monitoring requirements of paragraphs (a) and (d) of this section shall not apply to affected facilities subject to § 60.42c(h) (1), (2), or (3) where the owner or operator of the affected facility seeks to demonstrate compliance with the SO₂ standards based on fuel supplier certification, as described under § 60.48c(f) (1), (2), or (3), as applicable.

(f) The owner or operator of an affected facility operating a CEMS pursuant to paragraph (a) of this section, or conducting as-fired fuel sampling pursuant to paragraph (d)(1) of this section, shall obtain emission data for at least 75 percent of the operating hours in at least 22 out of 30 successive steam generating unit operating days. If this minimum data requirement is not met with a single monitoring system, the owner or operator of the affected facility shall supplement the emission data with data collected with other monitoring systems as approved by the Administrator.

§ 60.47c Emission monitoring for particulate matter.

(a) The owner or operator of an affected facility combusting coal, residual oil, or wood that is subject to the opacity standards under § 60.43c shall install, calibrate, maintain, and operate a CEMS for measuring the opacity of the emissions discharged to the atmosphere and record the output of the system.

(b) All CEMS for measuring opacity shall be operated in accordance with the applicable procedures under Performance Specification I (appendix B). The span value of the opacity CEMS shall be between 60 and 80 percent.

§ 60.43c Reporting and recordkeeping requirements.

(a) The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction, anticipated startup, and actual startup, as provided by § 60.7 of this part. This notification shall include:

(1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.

(2) If applicable, a copy of any Federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under § 60.42c, or § 60.43c.

(3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

(4) Notification if an emerging technology will be used for controlling SO₂ emissions. The Administrator will examine the description of the control device and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of § 60.42c(a) or (b)(1), unless and until this determination is made by the Administrator.

(b) The owner or operator of each affected facility subject to the SO₂ emission limits of § 60.42c, or the PM or opacity limits of § 60.43c, shall submit to the Administrator the performance test data from the initial and any subsequent performance tests and, if applicable, the performance evaluation of the CEMS using the applicable performance specifications in appendix B.

(c) The owner or operator of each coal-fired, residual oil-fired, or wood-fired affected facility subject to the opacity limits under § 60.43c(c) shall submit excess emission reports for any calendar

§ 60.48c

quarter for which there are excess emissions from the affected facility. If there are no excess emissions during the calendar quarter, the owner or operator shall submit a report semiannually stating that no excess emissions occurred during the semiannual reporting period. The initial quarterly report shall be postmarked by the 30th day of the third month following the completion of the initial performance test, unless no excess emissions occur during that quarter. The initial semiannual report shall be postmarked by the 30th day of the sixth month following the completion of the initial performance test, or following the date of the previous quarterly report, as applicable. Each subsequent quarterly or semiannual report shall be postmarked by the 30th day following the end of the reporting period.

(d) The owner or operator of each affected facility subject to the SO₂ emission limits, fuel oil sulfur limits, or percent reduction requirements under § 60.42c shall submit quarterly reports to the Administrator. The initial quarterly report shall be postmarked by the 30th day of the third month following the completion of the initial performance test. Each subsequent quarterly report shall be postmarked by the 30th day following the end of the reporting period.

(e) The owner or operator of each affected facility subject to the SO₂ emission limits, fuel oil sulfur limits, or percent reduction requirements under § 60.43c shall keep records and submit quarterly reports as required under paragraph (d) of this section, including the following information, as applicable.

(1) Calendar dates covered in the reporting period.

(2) Each 30-day average SO₂ emission rate (ng/J or lb/million Btu), or 30-day average sulfur content (weight percent), calculated during the reporting period, ending with the last 30-day period in the quarter; reasons for any noncompliance with the emission standards; and a description of corrective actions taken.

(3) Each 30-day average percent of potential SO₂ emission rate calculated during the reporting period, ending with the last 30-day period in the quarter; reasons for any noncompliance with the emission standards; and a description of corrective actions taken.

(4) Identification of any steam generating unit operating days for which SO₂ or diluent (oxygen or carbon dioxide) data have not been obtained by an approved method for at least 75 percent of the operating hours; justification for not obtaining sufficient data; and a description of corrective actions taken.

(5) Identification of any times when emissions data have been excluded from the calculation of average emission rates; justification for excluding

data; and a description of corrective actions taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit.

(6) Identification of the F factor used in calculations, method of determination, and type of fuel combusted.

(7) Identification of whether averages have been obtained based on CEMS rather than manual sampling methods.

(8) If a CEMS is used, identification of any times when the pollutant concentration exceeded the full span of the CEMS.

(9) If a CEMS is used, description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specifications 2 or 3 (appendix B).

(10) If a CEMS is used, results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1.

(11) If fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification as described under paragraph (f)(1), (2), or (3) of this section, as applicable. In addition to records of fuel supplier certifications, the quarterly report shall include a certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the quarter.

(f) Fuel supplier certification shall include the following information:

(1) For distillate oil:

(i) The name of the oil supplier; and

(ii) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in § 60.41c.

(2) For residual oil:

(i) The name of the oil supplier;

(ii) The location of the oil when the sample was drawn for analysis to determine the sulfur content of the oil, specifically including whether the oil was sampled as delivered to the affected facility, or whether the sample was drawn from oil in storage at the oil supplier's or oil refiner's facility, or other location;

(iii) The sulfur content of the oil from which the shipment came (or of the shipment itself); and

(iv) The method used to determine the sulfur content of the oil.

(3) For coal:

(i) The name of the coal supplier;

(ii) The location of the coal when the sample was collected for analysis to determine the properties of the coal, specifically including whether the coal was sampled as delivered to the affected facility or whether the sample was collected from coal in storage at the mine, at a coal preparation plant, at a coal supplier's facility, or at another lo-

§ 60.48c

cation. The certification shall include the name of the coal mine (and coal seam), coal storage facility, or coal preparation plant (where the sample was collected);

(iii) The results of the analysis of the coal from which the shipment came (or of the shipment itself) including the sulfur content, moisture content, ash content, and heat content; and

(iv) The methods used to determine the properties of the coal.

(g) The owner or operator of each affected facility shall record and maintain records of the amounts of each fuel combusted during each day.

(h) The owner or operator of each affected facility subject to a Federally enforceable requirement limiting the annual capacity factor for any fuel or mixture of fuels under § 60.42c or § 60.43c shall calculate the annual capacity factor individually for each fuel combusted. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of the calendar month.

(i) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record.

APPENDIX D

Subpart UUU—Standards of Performance for Calciners and Dryers in Mineral Industries

SOURCE: 57 FR 44503, Sept. 28, 1992, unless otherwise noted.

§ 60.730 Applicability and designation of affected facility.

(a) The affected facility to which the provisions of this subpart apply is each calciner and dryer at a mineral processing plant. Feed and product conveyors are not considered part of the affected facility. For the brick and related clay products industry, only the calcining and drying of raw materials prior to firing of the brick are covered.

(b) An affected facility that is subject to the provisions of subpart LL, Metallic Mineral Processing Plants, is not subject to the provisions of this subpart. Also, the following processes and process units used at mineral processing plants are not subject to the provisions of this subpart: vertical shaft kilns in the magnesium compounds industry; the chlorination-oxidation process in the titanium dioxide industry; coating kilns, mixers, and aerators in the roofing granules industry; and tunnel kilns, tunnel dryers, apron dryers, and grinding equipment that also dries the process material used in any of the 17 mineral industries (as defined in § 60.731, "Mineral processing plant").

(c) The owner or operator of any facility under paragraph (a) of this section that commences construction, modification, or reconstruction after April 23, 1986, is subject to the requirements of this subpart.

§ 60.731 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act and in subpart A of this part.

Calciner means the equipment used to remove combined (chemically bound) water and/or gases from mineral material through direct or indirect heating. This definition includes expansion furnaces and multiple hearth furnaces.

Control device means the air pollution control equipment used to reduce particulate matter emissions released to the atmosphere from one or more affected facilities.

Dryer means the equipment used to remove uncombined (free) water from mineral material through direct or indirect heating.

Installed in series means a calciner and dryer installed such that the exhaust gases from one flow through the other and then the combined exhaust gases are discharged to the atmosphere.

Mineral processing plant means any facility that processes or produces any of the following min-

erals, their concentrates or any mixture of which the majority (>50 percent) is any of the following minerals or a combination of these minerals: alumina, ball clay, bentonite, diatomite, feldspar, fire clay, fuller's earth, gypsum, industrial sand, kaolin, lightweight aggregate, magnesium compounds, perlite, roofing granules, talc, titanium dioxide, and vermiculite.

§ 60.732 Standards for particulate matter.

Each owner or operator of any affected facility that is subject to the requirements of this subpart shall comply with the emission limitations set forth in this section on and after the date on which the initial performance test required by § 60.8 is completed, but not later than 180 days after the initial startup, whichever date comes first. No emissions shall be discharged into the atmosphere from any affected facility that:

(a) Contains particulate matter in excess of 0.092 gram per dry standard cubic meter (g/dscm) [0.040 grain per dry standard cubic foot (gr/dscf)] for calciners and for calciners and dryers installed in series and in excess of 0.057 g/dscm for dryers; and

(b) Exhibits greater than 10 percent opacity, unless the emissions are discharged from an affected facility using a wet scrubbing control device.

§ 60.733 Reconstruction.

The cost of replacement of equipment subject to high temperatures and abrasion on processing equipment shall not be considered in calculating either the "fixed capital cost of the new components" or the "fixed capital cost that would be required to construct a comparable new facility" under § 60.15. Calciner and dryer equipment subject to high temperatures and abrasion are: end seals, flights, and refractory lining.

§ 60.734 Monitoring of emissions and operations.

(a) With the exception of the process units described in paragraphs (b), (c), and (d) of this section, the owner or operator of an affected facility subject to the provisions of this subpart who uses a dry control device to comply with the mass emission standard shall install, calibrate, maintain, and operate a continuous monitoring system to measure and record the opacity of emissions discharged into the atmosphere from the control device.

(b) In lieu of a continuous opacity monitoring system, the owner or operator of a ball clay vibrating grate dryer, a bentonite rotary dryer, a diatomite flash dryer, a diatomite rotary calciner, a feldspar rotary dryer, a fire clay rotary dryer, an industrial sand fluid bed dryer, a kaolin rotary

§ 60.735

calciner, a perlite rotary dryer, a roofing granules fluid bed dryer, a roofing granules rotary dryer, a talc rotary calciner, a titanium dioxide spray dryer, a titanium dioxide fluid bed dryer, a vermiculite fluid bed dryer, or a vermiculite rotary dryer who uses a dry control device may have a certified visible emissions observer measure and record three 6-minute averages of the opacity of visible emissions to the atmosphere each day of operation in accordance with Method 9 of appendix A of part 60.

(c) The owner or operator of a ball clay rotary dryer, a diatomite rotary dryer, a feldspar fluid bed dryer, a fuller's earth rotary dryer, a gypsum rotary dryer, a gypsum flash calciner, gypsum kettle calciner, an industrial sand rotary dryer, a kaolin rotary dryer, a kaolin multiple hearth furnace, a perlite expansion furnace, a talc flash dryer, a talc rotary dryer, a titanium dioxide direct or indirect rotary dryer or a vermiculite expansion furnace who uses a dry control device is exempt from the monitoring requirements of this section.

(d) The owner or operator of an affected facility subject to the provisions of this subpart who uses a wet scrubber to comply with the mass emission standard for any affected facility shall install, calibrate, maintain, and operate monitoring devices that continuously measure and record the pressure loss of the gas stream through the scrubber and the scrubbing liquid flow rate to the scrubber. The pressure loss monitoring device must be certified by the manufacturer to be accurate within 5 percent of water column gauge pressure at the level of operation. The liquid flow rate monitoring device must be certified by the manufacturer to be accurate within 5 percent of design scrubbing liquid flow rate.

§ 60.735 Recordkeeping and reporting requirements.

(a) Records of the measurements required in § 60.734 of this subpart shall be retained for at least 2 years.

(b) Each owner or operator who uses a wet scrubber to comply with § 60.732 shall determine and record once each day, from the recordings of the monitoring devices in § 60.734(d), an arithmetic average over a 2-hour period of both the change in pressure of the gas stream across the scrubber and the flowrate of the scrubbing liquid.

(c) Each owner or operator shall submit written reports semiannually of exceedances of control device operating parameters required to be monitored by § 60.734 of this subpart. For the purpose of these reports, exceedances are defined as follows:

(1) All 6-minute periods during which the average opacity from dry control devices is greater than 10 percent; or

(2) Any daily 2-hour average of the wet scrubber pressure drop determined as described in § 60.735(b) that is less than 90 percent of the average value recorded according to § 60.736(c) during the most recent performance test that demonstrated compliance with the particulate matter standard; or

(3) Each daily wet scrubber liquid flow rate recorded as described in § 60.735(b) that is less than 80 percent or greater than 120 percent of the average value recorded according to § 60.736(c) during the most recent performance test that demonstrated compliance with the particulate matter standard.

(d) The requirements of this section remain in force until and unless the Agency, in delegating enforcement authority to a State under section 111(c) of the Clean Air Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such State. In that event, affected facilities within the State will be relieved of the obligation to comply with this section provided that they comply with the requirements established by the State.

[57 FR 44503, Sept. 28, 1992, as amended at 58 FR 40591, July 29, 1993]

§ 60.736 Test methods and procedures.

(a) In conducting the performance tests required in § 60.8, the owner or operator shall use the test methods in appendix A of this part or other methods and procedures as specified in this section except as provided in § 60.8(b).

(b) The owner or operator shall determine compliance with the particulate matter standards in § 60.732 as follows:

(1) Method 5 shall be used to determine the particulate matter concentration. The sampling time and volume for each test run shall be at least 2 hours and 1.70 dscm.

(2) Method 9 and the procedures in § 60.11 shall be used to determine opacity from stack emissions.

(c) During the initial performance test of a wet scrubber, the owner or operator shall use the monitoring devices of § 60.734(d) to determine the average change in pressure of the gas stream across the scrubber and the average flowrate of the scrubber liquid during each of the particulate matter runs. The arithmetic averages of the three runs shall be used as the baseline average values for the purposes of § 60.735(c).

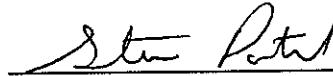
§ 60.737 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities which will not be delegated to States: No restrictions.

CERTIFICATE OF SERVICE

I, Keith A. Michaels, hereby certify that a copy of this permit has been mailed
by first class mail to Alcoa Industrial Chemicals, P. O. Box 300, Bauxite, AR 72011,
on this 2nd day of February, 2000.



for

Keith A. Michaels, Chief, Air Division

Sig Mo

MINOR SOURCE/TITLE V AIR PERMIT ROUTING				
FAC. NAME:		Aicoa Industrial Chemicals		
LOCATION:		Buxite		GROUP:
PERMIT #:		1527-AOP-R2		CSN: 63-0010
PLEASE REVIEW THE ATTACHED FILE WITHIN 5 DAYS AND RETURN FILE TO PERMIT ENGINEER, WITH APPROVAL, QUESTIONS, AND/OR COMMENTS.				
LOCATION OR ACTIVITY	STAFF	DATE RECEIVED	DATE FINISHED	INITIALS
Date Received	From	6-21-99		R
Adm. Comp. Rev.			7/9/99	SP
163 PUBLIC NOTICE:		YES NO	Mailed: 7/26/99	YW
Proof Reading	From	7-23-99	7-23-99	R
ACT 163 Notice Published: 9-10-99 Payment of PN: 9-10-99				
Hb Um 10/23 Red 11/21/99				
Engineer	S. B. um	7/14/99	10/8/99	SP
Supervisor			10/15/99	SP
Permits Mgr.				
Testing/CEM	From	10/18/99	10/19/99	SP
Enforcement	Bivens	10/15/99	10/15/99	DB
Document Prep.	Ewa	10-26-99	10-26-99	det
Proof Reading	From	10-26-99	10-26-99	R
Draft Mailed	* Ewa	11-3-99	11-3-99	det
PN Published	Statewide: 11-7-99		Payment of PN: yes	
	Local: 11-9-99		Payment of PN: yes	
Fee Paid	Invoice No. 54827	Amt. Pd. 9222	Date Received: 12-16	SB
COMMENTS:		Y N From Facility (SB)		
PER MGR:		SP 1/3/00 CHIEF:		
CHIEF'S SIGNATURE:		Lee W	1/3/00	YW
Mailing	Lee W	2/2/00	2/2/00	YW
Engineer				
Permits Mgr.				
AIRS				
Admin/Permitting			TO RECORDS:	

6/23/99 7/9/99
7/9/99
no receipt received
163 notice faxed to Bivens 8/25/99
Ewa

DB 10/21/99
SB 10/25

✓

MODIFICATION

TITLE V

6000003